

John C. Smart
Michael B. Paulsen
Editors

Higher Education: Handbook of Theory and Research

Volume 26

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**Higher Education: Handbook of Theory
and Research**

Volume XXVI

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Higher Education: Handbook of Theory and Research

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Chapter 1

Undergraduate Living–Learning Programs and Student Outcomes

Karen Kurotsuchi Inkelas and Matthew Soldner

Introduction and Outline of Chapter

Attempts to improve American undergraduate education—particularly at large research universities—have spawned a number of programmatic interventions designed to facilitate stronger student outcomes, including service learning programs, study abroad options of varying durations in various locations, undergraduate research, and a number of different types of learning communities (Kuh, 2008; The Boyer Commission, 1998). As each of these interventions gained in popularity, college campuses around the country scrambled to introduce them as part of their institutional offerings. All feature the fusion of traditional classroom learning with out-of-class immersions that purportedly enable students to apply their learning in different settings, critically analyze new information and perspectives, and deepen their intellectual curiosity (Kuh). However, another common feature of these interventions is a lack of a systematic focus of research on their effectiveness in delivering the student learning outcomes they are designed to promote. Instead, the literature on these interventions is varied: some empirical, some conceptual, some philosophical, and some practical.

In this chapter, we more closely examine one intervention, the living–learning program, and the student outcomes that have been associated with this type of program. Most generically, living–learning programs (LLPs) are *residence hall-based* undergraduate programs with a particular topical or academic theme. However, in the next section we describe the various methods we use to provide a more comprehensive definition. Following the conceptual description of LLPs, we summarize the historical roots and philosophical underpinnings of the modern LLP. We then turn to descriptions of the core traits that authors have ascribed to LLPs in what can be labeled “best practices” literature.

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We concentrate in the next section of the chapter on the empirical literature investigating the relationship between LLPs and a number of student outcomes, including academic performance, persistence, intellectual development, faculty and peer interaction, the transition to college, campus life, satisfaction, academic engagement and co-curricular involvement, attitudes and beliefs, self-efficacy, and psychosocial development. We then critique the current body of literature on LLPs, focusing first on the empirical literature and then on the practitioner works. Finally, we conclude the chapter with recommendations for future research and practice.

Defining Living–Learning Programs Within a Learning Community Typology

A precise definition of a living–learning program is elusive. Indeed, the terminology for LLPs can be confusing as well. Living–learning programs may also be known as residential learning communities, living–learning communities, living–learning centers, theme houses, or residential colleges but will be referred to in this chapter as living–learning programs, or LLPs. One way, perhaps, to better define LLPs is to nest them within the broader learning community structure that encompasses them.

Learning Community Typologies

Living–learning programs are one type of learning community. Learning communities have been described as curricular linkages that provide students with a deeper examination and integration of themes or concepts that they are learning (Gabelnick, MacGregor, Matthews, & Smith, 1990; Shapiro & Levine, 1999). Learning communities, like living–learning programs, can take several forms. The first to attempt to provide a typology of the different types of learning communities was Gabelnick et al. (1990). Subsequent learning community typologies are either combinations of the Gabelnick et al.’s categories or departure points from their version. Gabelnick et al. described five different variations of learning communities, with each subsequent variation being more structurally complex than its predecessor. The first type, “linked courses,” is simply two courses that students co-register for in consecutive terms. The faculty in these courses coordinate their curricula in some way, such as sharing reading lists or linking assignments. “Learning clusters” can be considered to be expanded versions of the linked course. Now, instead of merely two courses, students co-enroll in a series of courses over a given semester or year that are connected in some way. The third type of learning community is called the “freshman interest group,” or FIG, which takes a similar form to the learning cluster but—as suggested by its name—caters directly to first-year students and thus incorporates other programmatic elements to assist with the transition to college, such as “big buddies” or peer advisors and close ties to student support services.

The fourth type, “federated learning communities,” consists of multi-disciplinary course clusters organized around a topic, for example, world poverty or technology

and ethics. Students co-enroll in a series of courses in different disciplines that are related to the overarching theme and a “master learner,” or faculty member who is not an instructor for any of the related courses, participates in the curriculum alongside the students and assists them with integrating the different course materials. The final model in Gabelnick et al.’s typology is “coordinated studies.” In this model, students and faculty alike become fully immersed in a particular theme: students *only* register for these courses in a given time period and faculty members *only* teach topics related to this theme. Gabelnick et al. provided a detailed table (pp. 32–37) outlining all five types of learning communities in their book, including their definitions, basic instructional techniques, appropriate size for student cohorts, faculty roles, and community issues. Interestingly, in this earliest effort to create a typology, the authors provided no type or model representing the residence hall-based learning community (i.e., a living–learning program).

Nine years later, Shapiro and Levine (1999) provided a new typology of learning communities that did incorporate a residential model. The first type, “paired or clustered courses,” is a combination of the first two types within the Gabelnick et al.’s (1990) typology. Similarly, the authors combined two more of Gabelnick et al.’s types (and federated learning communities) to create their second type: “cohorts in large courses.” Next, Shapiro and Levine encompassed Gabelnick et al.’s final type (coordinated studies) within a broader category called “team-taught programs.” The authors depart from Gabelnick et al., however, with their final type, “residence-based programs.” Shapiro and Levine define the residence-based program as one that “adapt(s) a particular curricular model to include a residential component,” with the primary goal of the program being “the integration of students’ living and academic environments” (p. 36).

In the same year that Shapiro and Levine (1999) published their learning community typology, Lenning and Ebbers (1999) offered a very different type of typology in their monograph. The Lenning and Ebbers’s version includes four primary categories: (a) “curricular learning communities”; (b) “classroom learning communities”; (c) “student-type learning communities”; and (d) “residential learning communities.” They further subdivide the first two categories: under curricular learning communities, there are (a) cross-curricular learning communities; (b) curricular cohort learning communities; and (c) curricular area learning communities. For classroom learning communities, there can be (a) total-classroom learning communities and (b) within-classroom learning communities.

Lenning and Ebbers (1999) described curricular learning communities as those which are typically interdisciplinary and involve some type of integration of concepts across individual courses or themes. They assert that all five types of Gabelnick et al.’s (1990) learning communities can be constituted as “cross-curricular learning communities” or those that restructure the curriculum so that individual classes or coursework within those classes are linked for greater coherence and enhanced student learning. Curricular cohort learning communities, on the other hand, were described as, essentially, mini-degree programs, where students take a series of courses together as a cohort in lock-step progression. Finally, curricular area learning communities combined traditional

disciplinary coursework in an academic major with out-of-class discussion or study groups.

Classroom learning communities, in Lenning and Ebbers's (1999) typology, consisted of communities of support and learning within one class. This can be accomplished, the authors asserted, in two fashions: (a) a total-classroom learning community, or a class that behaves much like a community—with supportive peers and instructors that see their role as facilitators more than teachers; and/or (b) a within-classroom learning community, or a system through which small groups are formed within a larger class—such as group work, team learning, or collaborative projects. The third type of learning community in the Lenning and Ebbers's typology is the student-type learning community, which tends to focus less on academic topics or themes and more on the types of students the programs cater to, such as underrepresented groups or academically talented students. Like Shapiro and Levine (1999), Lenning and Ebbers (1999) do include a residence hall-based program in their typology: the “residential learning community.” In their description of the residential learning community, they referenced several examples of programs at various universities, including residential colleges, residential FIGs, residential honors programs, and various academic themes within a residential component. However, they stopped short of attempting to categorize the different types of LLPs.

The third learning community typology published in 1999 was provided by Love and Tokuno. Their typology mimics three of Shapiro and Levine's (1999) categories, including “paired or clustered courses,” “student cohorts in larger classes,” and “team-taught programs.” However, their major contribution to learning community typology development is the introduction of the “learning community for special populations.” Similar to Lenning and Ebbers's (1999) “student-type learning communities,” the focus of this category of programs is on the type of students the program caters to, and not its academic theme or topic. Indeed, when describing their “student-type learning communities,” Lenning and Ebbers directly allude to the more thorough treatment that Love and Tokuno provide for this type of programming.

Love and Tokuno (1999) identify six types of programming for special student populations: (a) academically underprepared students; (b) students from underrepresented groups; (c) students with disabilities; (d) honors programs; (e) residential students; (f) students with specific academic interests. Learning communities for academically underprepared students function primarily to assist these at-risk students through review courses, basic skills training, and in-depth academic advising. Programs for students from underrepresented groups typically focus on issues and topics relating to people from a specific social background (e.g., African-Americans) and incorporate a mentoring or networking program among members of the campus community who share a similar background. Communities for students with disabilities are designed to help students with physical, psychiatric, or learning disabilities meet their educational needs through support services, awareness and sensitivity training for campus constituents, and academic accommodations. Honors programs generally work with students that their campuses have designated

as high-ability or academically talented. These programs typically offer special courses or seminars open only to Honors students.

Love and Tokuno (1999) place “residential students” and “students with specific academic interests” as the final two groupings under the category of programming for special student populations. However, their descriptions of these types of programs tend to mirror what we believe are more representative of other categories previously described in other typologies as residential learning communities or curricular learning communities. Love and Tokuno describe “residential student” learning communities as those which “take the learning community concept into the residence halls, blurring the lines between in- and out-of-class learning” (p. 15). Thus, the primary distinction of this type of programming in their typology is that the community is situated in a residential setting, which appears consistent with the way in which Lenning and Ebbers (1999) and Shapiro and Levine (1999) define the “residential learning community.” Finally, Love and Tokuno define communities of “students with specific academic interests” as those which group together students of the same academic major (e.g., engineering). Students in these programs not only take the same classes over a defined period of time but also participate in co-curricular activities designed to complement topics in their major classes. Depending upon the extent of the coordination among the various courses in the major, as well as among the co-curricular activities, this type of program appears to be consistent with Lenning and Ebbers’s description of the “curricular learning community.”

Finally, the same combination of authors from the Gabelnick et al.’s (1990) work provided an updated typology in Smith, MacGregor, Matthews, and Gabelnick (2004) which appears to integrate many of the typologies introduced since their 1990 version. First, they combined some of their original categories and changed some of their terminologies to match subsequent authors’ works: “linked or clustered courses” became one category, FIGs were subsumed under a new category called “learning communities within courses that are unmodified,” along with freshman seminars and colloquia, or other types of integrative courses, and “team-taught learning communities” appears to draw from terminology used in Shapiro and Levine (1999) and Love and Tokuno (1999). Smith et al. also add some new categories absent from their 1990 typology in the 2004 version, including “curricular cohort programs,” for which they directly reference Lenning and Ebbers’s (1999) typology. Finally, they added five other categories, including a residential category called “living–learning communities,” thus compensating for its omission from the 1990 version.

In sum, typologies of learning communities have been advanced over the past 20 years, with subsequent authors refining, re-categorizing, and creating new types of learning communities based on programs they had encountered or observed in their work. While the first attempt at a learning community typology (Gabelnick et al., 1990) did not include LLPs, all subsequent typologies included some version of the residence hall-based learning community (Lenning & Ebbers, 1999; Love & Tokuno, 1999; Shapiro & Levine, 1999). Moreover, even the same authors who excluded LLPs in their original typology saw fit to include these programs in their

updated typology 14 years later (Smith et al., 2004). Yet, each of the above typologies used different terminology to represent LLPs, and none attempted to classify the different types of LLPs in existence around the country (for a visual representation of the five learning community typologies and the overlap among them, see Fig. 1.1). With its varied treatment within the learning community literature, it is not surprising to learn that the definition and the acknowledgment of the different types of living–learning programs in existence are not well understood by researchers and practitioners alike.

Living–Learning Program Typologies

More recent efforts have begun to address the omissions and confusion associated with some of the earlier work on *living–learning* typologies. The first two of these originated in the practitioner literature. Zeller, James, and Klippenstein (2002) identified several types of programs that aim to help students draw connections between their formal classroom and out-of-class experiences which take place in a residence hall setting. These include (a) residential colleges; (b) living–learning centers; (c) theme housing; (d) residential learning communities; and (e) the freshman year experience. Residential colleges are based upon the British model of postsecondary education, in which students and faculty live and work together on typically liberal arts types of educational endeavors (described in greater detail later in this chapter). Living–learning centers were described as residential programs with strong academic program partnerships, such as foreign language programs or pre-med programs. Theme housing provided an opportunity for students with similar interests or hobbies to live together. Typically, these types of programs provide little-to-no academic or disciplinary content. Residential learning communities, on the other hand, were described as programs in which clusters of students not only live together but also take many of their first-year classes together as well. Finally, freshman year experience programs focused on the facilitation of a successful transition to college. One might note that these descriptions are very similar to their broader learning community counterparts; the only difference is that all of these types of programs exist within the residence hall setting.

Schoem (2004) introduced a three-pronged typology of living–learning programs, composed of residential colleges, residential learning communities, and residential education programs. Residential colleges, based on the Oxford/Cambridge classic model, are commonly characterized as multi-year, focusing on a liberal arts education, with faculty and students living together in the residence hall. Residential learning communities, on the other hand, link models of learning communities (e.g., FIGs or clustered courses) with a residential component. They can be one year or multi-year and often also include a co-curricular component that is linked to the learning community. Finally, residential education programs bring students with common interests together in the same residential setting and may provide co-curricular activities and faculty involvement in the program. They do not, however, feature the residential college tradition, or integrate a learning community model.

Gabelnick et al. (1990)	Shapiro & Levine (1999)	Lemming & Ebbers (1999)	Love & Tokuno (1999)	Smith et al. (2004)
Linked Courses	Paired or Clustered Courses	Curricular Learning Communities, including: (a) Cross-curricular LCs	Paired or Clustered Courses	Learning Communities of Linked or Clustered Courses
Learning Clusters	Cohorts in Large Courses	Student Cohorts in Larger Classes		Learning Communities within Courses that are Unmodified (a) Freshman Seminar or Interest Group
Freshman Interest Groups (FIGs)	Federated Learning Communities			(b) Integrative Seminar or Colloquy
Federated Learning Communities	Coordinated Studies	Team-Taught Programs	Team-Taught Programs	Team-Taught Learning Communities
		(b) Curricular Cohort LCs (c) Curricular Area LCs		Curricular Cohort Programs
		Classroom Learning Communities, including: (a) Total-Classroom LCs (b) Within-Classroom LCs		
				Learning Communities for Special Populations, including: (a) Academically Underprepared Students (b) Students from Underrepresented Groups (c) Students with Disabilities (d) Honors Programs (e) Residential Students* (f) Students with Specific Academic Interests*
		Student Type Learning Communities cf Love & Tokuno (1999)		
			Residential Learning Communities Examples provided include: (1) Residential Colleges (2) Residential FIGs (3) Honors (4) Various Academic Themes	Living-Learning Communities
		Residence-Based Programs		Additional Co-Curricular Elements
				Sequential Course LCs
				Multiple LC Structures on a Single Campus
				Fixed-Content and Variable-Content LCs

Fig. 1.1 Comparison of learning community typologies (*While Love and Tokuno placed these two types of programs in this cell, the authors believe that they are more similar to other categories in the figure)

However, Inkelaas and Associates (2004, 2007) provided two more comprehensive typologies of living–learning programs, and importantly, their typologies remain—to date—the only empirically derived typologies in the living–learning or learning community literature. The authors have developed two different thematic typologies of LLPs, based on two different data collections. The 2004 thematic typology was based on programmatic information provided by 297 LLPs under the auspices of the 2004 National Study of Living–Learning Programs (NSLLP), a Spring 2004 data collection at 34 different postsecondary institutions across the United States. Using the name of the LLP and its 50-word description provided by the institutions, one rater sorted 247 LLPs into 14 primary categories, with sub-types beneath some categories. In all, there were 26 total LLP thematic types in the 2004 analysis.

The 2007 Inkelaas and Associates thematic typology was built upon the original 26 primary and sub-types of categories in the 2004 version but utilized a significantly more rigorous method of analysis. Using information from 611 LLPs participating in the NSLLP data collection in Spring 2007, a team of six raters examined three data elements: (a) the program’s name; (b) the program’s stated goals and objectives; and (c) the program’s ratings of the relative importance of 17 pre-selected learning outcomes. Each rater independently categorized the 611 LLPs into one of the existing 26 categories from the 2004 typology, or created new categories to accommodate distinctive programs that were not reflected in the 2004 version. Eventually, the raters reached consensus regarding the thematic type of 555 LLPs in the 2007 data, emerging with 17 primary categories and 41 types in total, including sub-types. This thorough analysis also resulted in a few changes to, and improvements in, the original 2004 typology as well. The descriptions below represent the most recent 17 groupings within the Inkelaas and Associates LLP typology, in alphabetical order:

1. “Civic/social leadership programs.” These LLPs focused on public service or active participation in the political process. There are four sub-types within this category, including (a) civic engagement programs, which emphasize engaging students in civic issues, primarily through political activism or service; (b) environmental sustainability programs, concerned with promoting ecological action, (c) leadership programs, focusing on leadership development, and (d) service-learning and social justice programs, which promote civic engagement largely through social responsibility.
2. “Cultural programs.” These programs stressed cultural understanding and appreciation, and are subdivided into three types: (a) international/global programs, which may focus on a single country or a region, or more broadly may emphasize international affairs, (b) language programs, which aim to help develop students’ linguistic and cultural proficiency in a foreign language, and (c) multicultural/diversity programs, which focus on domestic diversity issues such as race/ethnicity, sexual orientation, or other social identities.
3. “Disciplinary programs.” This large grouping of LLPs clustered students together by similar majors or disciplinary interests. There are 11 sub-types in

- this category: (a) agriculture or veterinary medicine, (b) business, (c) communication or journalism, (d) education, (e) engineering and computer science, (f) general science, (g) humanities, (h) interdisciplinary, (i) law or criminal justice, (j) mathematics, or (k) the social sciences.
4. “Fine and creative arts programs.” These LLPs focused on promoting appreciation and interest in the visual arts, music, architecture, film, prose, or photography. And, because of their prevalence, culinary arts is included as a sub-type within this grouping.
 5. “General academic programs.” These programs offered general academic support but did not feature any particular disciplinary theme (e.g., engineering or history), nor did they serve a particular group (e.g., first-year students, transfer students).
 6. “Honors programs.” Honors LLPs provided an academically enriched learning environment for an institution’s academically talented students. Typically, students are invited to participate in these programs, based on prior high school achievement indicators (e.g., high school GPA or standardized test scores).
 7. “Leisure programs.” These LLPs generally offered little-to-no academic content and instead centered on recreational activities. The three sub-types in this category included the following: (a) general leisure pursuits, examples including playing card games or World Cup enthusiasts, (b) local community exploration, or programs that focused on learning about leisure or cultural activities nearby their campuses, especially those in an urban center, and (c) outdoor recreation, offering students an opportunity to develop sporting or outdoor/wilderness skills.
 8. “Political interest programs.” Participants in this LLP type discussed domestic political issues and supplemented their learning through media outlets. Typically, though, community service or service learning was not emphasized.
 9. “Research programs.” Students in this type of LLP participated in faculty-guided research or peer team-based projects.
 10. “Reserve Officer Training Corps (ROTC) programs.” All members of this LLP type were in either the Army, the Navy, or the Air Force ROTC groups at their (or a host) institution.
 11. “Residential colleges.” These types of programs varied somewhat by structure, but they generally spanned multiple years of the college experience and attempted to re-create an early-American liberal arts focus on academic, cultural, and social pursuits.
 12. “Sophomore programs.” These types of LLPs focused on the continuing needs of students in their second year of college.
 13. “Transition programs.” Transition LLPs assisted undergraduate students in their adaptation to university life and were further divided into the following sub-types: (a) career or major exploration, focusing on academic and vocational investigation, (b) first-year student programs, which assisted first-year students on their college transitions, (c) new student transition programs for diverse populations, which served the transition needs of students from non-dominant backgrounds (e.g., first-generation college students, LGBT students),

- and (d) transfer student programs, focusing on the transition experience of students who transferred to an institution from a two- or four-year college.
- 14. “Umbrella programs.” These types of LLPs typically housed several, potentially distinct communities without disaggregating those communities by theme. For example, a “living–learning center” might incorporate under its administrative structure eight different communities of students, each focusing on a separate disciplinary or social issue.
 - 15. “Upper division programs.” These programs served the needs and interests of juniors and seniors, and may have included components that prepare students for post-graduate study or workforce entry.
 - 16. “Wellness programs.” These programs often focused on physical and psychological healthy living, and were subdivided into two types: (a) general wellness and healthy living and (b) spirituality and faith based, which emphasized issues of personal spirituality or the formal study of religion.
 - 17. “Women’s programs.” This final category of LLPs focused on women’s development and were represented by two sub-types of programs: (a) women’s leadership programs, which promoted women’s roles as leaders in society and the workforce and (b) women-only science, technology, engineering, and mathematics (STEM) programs, which worked to combat the underrepresentation of women in STEM through a single-sex living environment designed to facilitate communal support and networking.

For more information about the above typology, see Inkelas and Associates (2007).

Finally, Inkelas, Soldner, Longerbeam, and Brown Leonard (2008) offer a different kind of LLP typology, based not on programmatic themes but instead on programmatic structures. In combination, both substantive and structural typologies are necessary to provide a truly comprehensive portrayal of the distinguishing characteristics of different types of LLPs. Using the 2004 NSLLP data, the authors conducted a two-step cluster analysis to sort 297 LLPs into statistically derived groupings using the following LLP structural components: (a) program size; (b) budget source; (c) number of faculty involved in the program; (d) courses offered by the program; (e) administrative affiliation of the program’s director; (f) special resources offered by the program; and (g) co-curricular activities provided by the program. Of the 297 LLPs in the study, 207 were successfully clustered into three groupings (several of the programs not included in the final cluster analysis were all programs from the same institution that had idiosyncratic features which prevented them from clustering with other programs on other campuses). The three groupings were characterized by Inkelas et al. (2008) as follows:

1. “Small, limited resourced, primarily residential life emphasis.” These LLPs included typically less than 50 participants and were administered and funded primarily by housing or residence life units on their campuses. Thus, there was little coordination with academic departments or units, and academic resources, such as faculty involvement and advising, were scarce in this type of program.

2. “Medium, moderately resourced, student affairs/academic affairs combination.” LLPs in this grouping typically included about 100 participants and offered more resources to students (such as multicultural programming, community service opportunities, and career workshops). They also demonstrated limited partnerships with academic units (e.g., more faculty participation and academic advising options) but did not exhibit the extent of academic/student affairs collaboration as illustrated in the third grouping.
3. “Large, comprehensively resourced, student affairs/academic affairs collaboration.” This type of LLP was typically very large, averaging 343 participants, and students in these programs had access to a wide variety of resources and co-curricular activities. These programs also boasted the largest number of dedicated course offerings and affiliated faculty.

Inkelas et al. (2008) noted a few surprising findings related to their structural typology. First, they found it noteworthy that over 200 different LLPs represented in the structural typology could be reduced to only *three* structural types. Recalling that thematic typologies developed by the same team of researchers revealed over two dozen different program themes, the authors speculated that, while the themes of programs may vary from institution to institution, the way that LLPs are run—no matter the location—is remarkably similar. Second, after matching student survey data with program level data, the authors found that “bigger” is not necessarily “better.” Examining a range of self-reported student-learning outcome data, Inkelas et al. found that students in the small, limited resourced, primarily residential life (cluster 1) programs did not significantly differ from their peers in large, well-resourced, academic and student affairs collaborations (cluster 3). Interestingly, though, students in clusters 1 and 3 did outperform students in the medium, moderately resourced, student/academic affairs combination programs (cluster 2). The authors cautioned, however, that their exploratory analysis required further testing.

There were some commonalities among the thematic groupings provided by Zeller et al. (2002), Schoem (2004), and Inkelas and Associates (2004, 2007). First, of obvious note, all three typologies included and defined “residential colleges” in a similar fashion. Second, Zeller et al.’s “living–learning centers” were described analogously to Inkelas et al.’s “multi-disciplinary programs” (2004) or “umbrella programs” (2007). Third, there were strong parallels between Zeller et al.’s “freshman year experience programs” and Inkelas and Associates’ “transition programs.” Finally, one might argue that the rest of the themes uncovered in Inkelas and Associates’ (2004, 2007) thematic typologies were merely an expansion of Zeller et al.’s categories of “theme housing,” “academic residential programs,” or “residential learning communities.”

At first blush, one might also see parallels between Schoem’s (2004) typology of LLPs and the Inkelas et al.’s (2008) structural typology: the “residential education programs” (which might also be interpreted as “theme housing” by Zeller et al. (2002)) parallel the “small, limited resourced, primary residential life” programs, and as the sophistication of the programs increases in the Schoem’s typology, so does the complexity of the structural components in the Inkelas et al.’s typology.

However, it is important to distinguish that not all residential colleges can be classified as large, or comprehensively resourced, or full academic/student affairs collaborations. Moreover, the culture and tradition of the residential college distinguishes this type of program in other ways that a structural typology cannot address.

Altogether, the various LLP typologies reveal an ever-expansive portrait of living–learning programs in existence at U.S. postsecondary institutions. However, several common characteristics can be noted that may bring us closer to a definition of these programs. First—and paramount—all LLPs are residence hall-based programs, meaning that students who participate in these programs not only participate in some sort of curricular or co-curricular activity jointly but also live together in the same residence hall location. Second, the characteristics or features of several different types of LLPs mirror those of their conceptual cousins, the learning communities. Some LLPs, like their freshman interest group (FIG) learning community counterparts, strongly emphasize the transition to college for first-year students by providing resources to facilitate student success. Other LLPs focus specifically on targeted student populations, like high-talent students in Honors programs or students of color or international students in cultural programs. Many LLPs provide linked or team-taught courses as part of their curriculum. Third, while there may be numerous different *themes* among LLPs across the United States, their *structural* characteristics manifest themselves in only three essential structural types, where a specific LLP’s structural type can be discerned through an analysis of (a) the size of the program; (b) the amount of fiscal, human, and programmatic resources it contains; and (c) the extent to which there is or is not a collaboration among relevant academic and student affairs units. Although a precise definition of living–learning programs remains elusive in the literature, these common components bring into focus a sharper characterization of the contemporary LLP.

The Historical Development of and Rationale for Living–Learning Programs

The “Oxbridge” Residential College as the Model

The above characteristics may exemplify modern living–learning programs, but these communities actually have strong historical legacies. Although Chaddock (2008) may trace the living–learning community back to Pythagoras in 6 BC, many observers reach back to a more recent past in the nineteenth century. Several of the first American colonial colleges were intentionally patterned after the attributes and characteristics of the two great English universities: Oxford and Cambridge. However, the early colonial colleges—largely due to financial limitations—offered either little more than sparse living chambers or no housing to students whatsoever (Chaddock). Yet, in their attempt to model the Oxford and Cambridge (or “Oxbridge”) experience, many higher education leaders in the colonial period

routinely invoked the British residential college model (Alexander, 1998). For example, Harvard President Dunster (1640–1654) was credited with promoting the following: “...learning alone might be got by lectures and reading; but it was only by studying and disputing, eating and drinking, playing and praying as members of the same collegiate community, in close and constant association with each other and with their tutors, that the priceless gift of character could be imparted to young men” (Morison, p. 252, as cited in Chaddock).

The “Oxbridge” residential college model included a system of residences—each equipped with commons, unions, and athletic fields—in which instructors and students lived, studied, worked, and socialized together communally (Alexander, 1998). Early colonial colleges, including Harvard, William & Mary, and Princeton, followed this pattern by constructing buildings with not only lecture halls but also dining rooms, a kitchen, a library, and sleeping quarters for students and their tutors (Ryan, 1992). Concerned not only with learning subjects but also with molding character through the “full development” of its students, students spent their entire academic experience within the same building—attending lectures, performing recitations and disputations, praying, dining, socializing, and sleeping (Ryan). Tutors lived in residence with students to oversee their learning and development. Thus, the environment in which students (and their instructors) lived was also the same as in which they learned. As can be seen in the above typologies of LLPs, postsecondary institutions across the United States continue to appropriate the residential college concept in some form to this day, but the extent to which the American versions replicate the *esprit de corps* of their original British counterparts has been debated for decades (Alexander).

Eventually, the colonial model began to give way to a more discipline-focused Germanic model of higher education at many colleges and universities in the United States in the late 1800s. The German model emphasized independent and graduate study, as well as faculty research. A college education was transformed from a largely communal phenomenon to one where students specialized in a particular professional or vocational interest, faculty focused primarily on their own scholarship, and most importantly in the history of LLPs, the role of the college residence became peripheral to the academic enterprise (Veysey, 1965; Rudolph, 1990; Ryan, 1992).

Twentieth-Century Reformers

Although the German model became the standard bearer in American higher education, particularly among the land grant universities built by the Morrill Act of 1862, it was not without its critics. Two of the most prominent critics of the early twentieth century would become key figures in the modern version of the living–learning program: John Dewey and Alexander Meiklejohn. Dewey believed that American universities needed to adopt a more progressive version of education, where students become more active agents in their own learning. He disdained the view that students were empty vessels receiving knowledge from experts. Instead,

he favored the approach where students and teachers learned collaboratively, or through “shared inquiry” (Smith et al., 2004). Indeed, several of the pedagogical terms in teaching and learning scholarship that are taken for granted now—such as active learning and student-centered learning—took their form from Dewey’s writings. In order to accomplish this progressive form of education, students and faculty would need to have a much closer relationship than was typical during that time. Moreover, community (or co-curricular) activities that reinforced students’ learning and gave them opportunities to practice skills they were learning in their curricula were strongly advocated (Smith et al.; Shapiro & Levine, 1999).

Dewey and Meiklejohn both shared in the belief that the then-current status of American higher education was deficient. Molded from Meiklejohn’s beliefs and created as an alternative version of undergraduate education at the University of Wisconsin, the Experimental College of 1927–1932 became what is widely viewed as the progenitor of the modern living–learning program (Shapiro & Levine, 1999; Smith et al., 2004; Smith & Williams, 2007). Meiklejohn (1932/2001) felt that increasing specialization among academic disciplines was leading to the intellectual and social fragmentation of the university. The Experimental College would, therefore, integrate students’ curricular, co-curricular, and residential experiences all in one setting. First and foremost, students would live together in the same hall. They would participate in a common and required curriculum focusing on democracy; yet, the courses would use novel pedagogical techniques, such as team-teaching and clustered courses. In addition, students in the Experimental College would form many of their own clubs or activities. During its existence, Meiklejohn even incorporated a field experience into the program, requiring students to conduct an analysis of how democratic principles manifested themselves in their hometowns (Meiklejohn).

The Experimental College closed after only 5 years, and in his report to the University of Wisconsin, Meiklejohn (1932/2001) highlighted several challenges that contributed to its demise: (a) allowing non-participants to live in the same residence hall as participants; (b) uneven faculty involvement arising from divided loyalties with their traditional disciplines; and (c) difficulty in enacting new policies that were vanguard to established practices of the day. Ironically, all of these issues still plague living–learning programs today!

Contemporary Gatekeepers and Calls for Undergraduate Education Reform

In addition to providing an excellent summary of Dewey and Meiklejohn’s contributions to early learning communities, Smith et al. (2004) continued their historical narrative into present day. They wrote of Joseph Tussman, who was one of Meiklejohn’s protégés, and his Experiment at Berkeley, a team-taught interdisciplinary study of democracy (albeit non-residentially based) in the 1960s. They went on to chronicle the surprisingly small circle of academics that carried on the learning community movement to San Jose State College, the State University of New

York–Old Westbury, and eventually Evergreen State College. Many of the central figures in the learning community movement were given the opportunity to plan the curriculum for this new public university in Washington state. Founded in 1969, Evergreen went through a rocky first decade but stabilized by the 1980s to become the central force behind the learning community approach to undergraduate education. With seed money from two grants, several in the Evergreen leadership looked to move their reform efforts statewide and established the Washington Center for Improving the Quality of Undergraduate Education. The Washington Center remains a leader and central figure in the learning community movement to this day, having expanded their reach to postsecondary institutions across the United States (Smith et al.).

Like their learning community counterparts, living–learning programs exploded in popularity over the past three decades, with many campuses racing to implement LLPs to keep up with their competitive peers. Moreover, similar to learning communities, the impetus for this growth was based on several, often intersecting, calls for reform within American undergraduate education, particularly at the large, research university. First, a growing unease raised by the public sector concerned the overall quality of undergraduate education in America’s colleges and universities. Several critical books were published in the late 1980s on what the authors described as the decay of American undergraduate education—questionable or poorly integrated curricula, an overreliance on inexperienced instructors or graduate students to teach undergraduate courses, and a politically radical intellectual focus of contemporary academic scholarship, especially in the humanities and social sciences. These authors included Bloom’s (1987) *The Closing of the American Mind*, Ravitch and Finn’s (1988) *What Do Our Seventeen Year Olds Know*, and Sykes’s (1988) *ProfScam: Professors and the Demise of Higher Education*.

The full accuracy of the accusations made by these authors and books notwithstanding, observers in and outside of the academy found enough “truth” in these claims to focus more deeply on undergraduate education, particularly at large research universities. What followed were public calls for undergraduate reform—from federal and state lawmakers, parents, students, and higher education itself. Thus, from the 1980s to the present, state governments started mandating accountability of their public universities regarding access and retention, educational quality, declining standards, and costs. At the same time, parents, students, and legislators started demanding greater accountability about what are students learning, why attrition is so high, how higher education contributes to economic growth and individual returns on investment, and why it is so expensive (Gabelnick et al., 1990; Shapiro & Levine, 1999; Smith et al., 2004).

Federal policymakers also responded to the reform call, conducting their own studies and publishing their own reports. Publications such as The Boyer Commission’s (1998) *Reinventing Undergraduate Education: A Blueprint for America’s Research Universities*, The Kellogg Commission on the Future of State and Land-Grant Universities’ (1990–2000), *Returning to Our Roots*, and The Association of American Colleges and Universities’ (2002) *Greater Expectations: A New Vision for Learning as a Nation Goes to College* similarly called for

American postsecondary institutions—especially large research universities—to rededicate their focus on undergraduate education by incorporating more active and collaborative learning activities, such as undergraduate research, first-year programming, freshman seminars, and capstone courses, especially if they help to create smaller, more intimate communities of practice within the larger university setting.

At the same time that public outcry was heightening about the quality of undergraduate education in America, so too were questions about who was gaining access to college and who was able to persist to graduation. It is well documented that postsecondary enrollment is more diverse by race/ethnicity, age, gender, socioeconomic status, etc., than ever before in American history and continues to grow more diverse with each successive year (Adelman, 1999; Learning Reconsidered, 2004). Moreover, students are reaching four-year postsecondary education from increasingly divergent routes, including via community colleges, transfers and “double dipping” from other four-year colleges, the military, and other nations (Adelman).

This increasingly diverse population of college-goers, it is argued, has an equally diverse set of learning styles that may or may not mirror the dominant mode of teaching and learning in the traditional college setting (Laufgraben, Shapiro, & Associates, 2004; Learning Reconsidered, 2004; Smith et al., 2004). Laufgraben et al. asserted that there was a transformational shift in pedagogy concerning college students in the 1990s, away from the traditional notion of faculty teaching being equated with student outcomes and toward a new paradigm placing an emphasis on student learning (Barr & Tagg, 1995). Several of the premises in the teaching to learning shift included the following:

- Students coming to college with prior knowledge and experience that affects how they process new information; teachers must pay attention to these differences in order to maximize impact.
- In order to reach students with different learning styles, passive forms of learning (such as lectures and reading) should be intermingled with more active techniques that reinforce meaning, such as team projects, integrative assignments, and mixed medias.
- Learning is best facilitated when instructors convey clear learning expectations in the form of learning outcomes (Laufgraben, et al., 2004, pp. 12–13).

It is important to note that while the drumbeat for educational reform toward student learning has been credited to have begun in the 1990s by authors such as Smith et al. (2004) and Laufgraben et al. (2004), Dewey and Meiklejohn argued for much of the same concepts in the early twentieth century: more active styles of learning, greater faculty involvement with students, smaller communities of practice, and co-curricular reinforcement and applications of curricular content.

Although living-learning programs are not considered the “answer” to all of the above challenges to undergraduate education, they have been advanced as an intervention that can address several of higher education’s educational shortfalls. First, LLPs help to “make the big store small” by providing a more intimate peer group

of students with similar interests within the broader university context (Inkelas & Weisman, 2003). The more narrow academic focus of the program may also serve as a way to motivate students by engaging them in a common enterprise, possibly generating an enthusiasm for learning (Gabelnick et al., 1990; Shapiro & Levine, 1999). In addition, LLPs are linked to easier transitions to college and retention through programming designed to engage students more deeply with faculty, peers, and active and collaborative styles of learning (e.g., research projects, service learning, and internships) (Inkelas & Associates, 2004; Schoem, 2004). Moreover, LLPs are thought to provide a bridge between students' in- and out-of-class experiences and thus impart greater coherence to the college environment for students who have difficulty navigating the sea of different experiences (Laufgraben, Shapiro, & Associates, 2004). In sum, living–learning programs are thought to “(make) possible the integration of the social, cultural, physical, spiritual, and intellectual growth of students in such a way that each complements the others” (Adams, 1974, p. 89).

However, while the propaganda on living–learning programs makes them appear like the ideal undergraduate educational intervention, ironically, the same calls for accountability that helped to ignite the explosion of LLPs across the country were not met with similar calls to assess whether LLPs could live up to their lofty reputations before and during their great proliferation. Unlike their learning community counterparts, LLPs did not have well-known gatekeepers such as those at Evergreen State who were knowledgeable of the historical and philosophical roots of these interventions, who could constrain the parameters of what could conceivably be described as an LLP, or could even be the facilitator of the dialogue regarding the evolution of these programs. This void would create a somewhat “Wild West” scenario—in which new LLPs were being created at rapid pace, but there was little-to-no agreed-upon definition of what an LLP should be, insight as to how they should be run, and evidence that they were effective in the goals and objectives they had been created to achieve.

Core Practices in Living–Learning Programs from the Extant Literature

To fill the void in leadership on the dialogue regarding LLPs, a practitioner-based set of literature has emerged that describes what could be considered “best” or “core” practices of living–learning. The form of much of this literature is based on a “lessons learned” philosophy, in which practitioners or administrators who have developed LLPs share with public audiences tips that they have for creating new programs. Each offers practical advice, often in the form of lists or guidelines. Authors in this type of literature also typically identify actual LLPs that they feel are indicative of the core practices they are advancing, although none offer any methodological explanation for how they determined that those specific programs are the “best” practice of their assertions. Therefore, for this review, we have chosen to focus on the *practices* that the practitioner literature identifies as central to effective LLPs, but not the specific names of the programs themselves. In addition,

it is important to note that the broader learning community literature also offers core practices, but the sources cited below only encompass practices associated with *living–learning* programs. Because each different source offered distinct, idiosyncratic sets of core practices, instead of summarizing each work individually, we chose to synthesize their writings into seven principal practices for LLPs, detailed below.

Establish a Clear Vision and Objectives

The first practice involved establishing a clear vision and set of objectives for an LLP. Gruenewald and Brooke (2007) recommended that before any living–learning program is created, the developers establish a clear mission and set of related learning outcomes. Similarly, Hummel, Murphy, and Zeller (2008) suggested that new LLPs identify common goals, which may include initial learning outcomes that can be enhanced or supplemented over time. Some authors went even further by suggesting goals that they feel all LLPs should aspire to as core values. Schoem (2004) set lofty goals for LLPs, including (a) a meeting place for the scholarly community, (b) primary facilitators of deep learning on college campuses, and (c) a vehicle for democratic education and instructional innovation. Hummel et al. added to their basic premise of establishing common goals by prescribing philosophical constructs that they feel all LLPs should fulfill, including creating inclusive communities where students take active responsibility for their actions and providing opportunities for students to partake in a variety of learning experiences.

Solicit Campus Leadership and Support

Several authors noted the importance of campus leadership and support for the sustainment of LLPs. While Laufgraben, O'Connor, and Williams (2007) argued that successful LLPs need the support of campus senior leadership, Schoem (2004) utilized the word “champions” to represent key leadership that advocates for the centrality of living–learning on a campus. Both Laufgraben et al. and Schoem also asserted that leaders should recognize and reward outstanding efforts in living–learning, when appropriate. Part of that leadership includes financial support and sponsorship of expertise. Hummel et al. (2008) suggested three potential monetary and conceptual sponsors for LLPs: (a) academic affairs, who can offer guidance on enhancing pedagogy and curricula; (b) student affairs, who can assist in strengthening campus community and creating connections between in- and out-of-class experiences; and (c) external sponsors, who can offer financial support and take part in developmental efforts to secure future funding.

Form Academic and Student Affairs Partnerships

In addition to key leadership, several authors stressed the importance of partnerships between academic and student affairs units in order to operate effective LLPs. While

none provided specifics on how these two historically distinct cultures (Bergman & Brower, 2008; Schoem, 2004) can move past their differences and work together, several authors provided what they perceived as characteristics of strong partnerships. Gruenwalde and Brooke (2007) advised that effective administrative and organizational structures should provide equal roles in both supervision and funding for academic and student affairs partners. The authors also maintained that the foundation of effective partnerships is a transparent network of communication. Finally, Laufgraben et al. (2007) offered that keys to successful academic and student affairs partnerships include shared values and mutual support from campus champions.

Seek and Maintain Faculty Involvement

Roles of faculty in LLPs may vary, but several authors argued that their presence is critical. Faculty involvement may take the form of teaching courses for the LLP (Bergman & Brower, 2008), advising and mentoring students (Inkelas & Longerbeam, 2008; Inkelas, Soldner, & Szelenyi, 2008), participating in co-curricular activities like meals with students, lecture series, or field trips (Bergman & Brower), or serving on the LLP's steering committee or advisory council (Shapiro & Levine, 1999). A common challenge for LLPs is the recruitment and retention of faculty in such roles. Bergman and Brower noted that faculty often have stereotypes about residence hall settings and student affairs staff that may impede positive relationships at first (indeed, student affairs and residence life staff may hold negative stereotypes about faculty as well). The authors recommended a shared governance system where faculty and student affairs staff worked collaboratively to make decisions about the execution of the LLP. In addition, Bergman and Brower recommended to allow faculty to ease into the LLP experience by having them perform more traditional roles at first—such as teaching and advising—so that they may become more comfortable in their new environment before branching out to less familiar territory. Finally, while several authors (e.g., Laufgraben et al. 2004; Smith et al., 2004) lamented that the faculty reward structure at research institutions does not incentivize faculty to work with LLPs, other practitioners, such as Schoem (2004), took a different approach and recommended to recruit faculty who are either tenured or off of the tenure track who may be seeking the intellectual community that they never found within their traditional disciplines. Regardless of how they may become and stay involved with LLPs, student–faculty interaction has been shown in the empirical literature to be more prevalent for undergraduates who participate in LLPs (Garrett & Zabriskie, 2003; Inkelas, Vogt, Longerbeam, Owen, & Johnson, 2006b; Pascarella & Terenzini, 1980; Pike, 1999).

Facilitate Peer Interaction and a Healthy Residence Hall Climate

Since LLPs are housed in residence halls, peer interaction and perceptions of the residence hall climate can be integral parts of a successful environment. Schoem (2004) conceived of LLPs as programs that can help build a strong sense of community for

students. Because students in LLPs are together not only for their classes but also for meals, studying, and social activities, LLPs offer a communal setting where undergraduates can feel a part of something larger than themselves. He noted that the living environment allows for students to practice democracy through interaction with diverse peers and perspectives, upholding community standards, and managing conflicts. Inkelas and her colleagues explicitly tied the residence hall climate to several student outcomes for LLP students (Inkelas & Weisman, 2003; Inkelas et al., 2006a; b): they asserted that LLP students' perceptions of their academic and social residence hall climates were consistently one of the strongest predictors of a number of outcomes, including sense of belonging, the transition to college, and civic behaviors. Moreover, the authors cited peer interaction and discussion of academic and sociocultural issues as critical to a healthy LLP environment (Inkelas & Longerbeam, 2008; Inkelas et al., 2008).

Integrate and Assess LLP Activities

The final two core practices are related to one another in that they involve practices which require LLP stakeholders to periodically reflect upon their work. Schoem (2004) wrote that LLPs, in order to be truly effective, must integrate the academic and social experience for their students. Similarly, Hummel et al. (2008) asserted that LLPs should be the “critical nexus” between the in- and out-of-class experience. The authors described ways in which this integration can be made possible, including dovetailing co-curricular activities like service learning or study groups with course curricula or faculty interests. Importantly, both authors believed that the extent to which the LLP environment feels “seamless” to students, the more powerful the experience will be. Finally, continuous quality improvement requires regular assessment. Both Gruenewald and Brooke (2007) and Hummel et al. (2008) recommended to base assessments on the fulfillment of or progress toward program visions and objectives.

Ironically, while practitioner authors have been recommending that assessment plans become a core practice of LLPs, only a limited amount of research or assessment on living–learning programs has been made publicly available. Indeed, the scholarship on LLPs cuts across the historical, the philosophical, the conceptual, the practical, and the empirical; however, the empirical component of the literature is rarely, if ever, used in combination with the others. In fact, this review may be the first time that all different aspects of the LLP literature are summarized in one work. Accordingly, we now turn to research and assessment that examines living–learning programs and student outcomes.

Empirical Studies Investigating Relationships Between LLP Participation and Student Outcomes

For purposes of scope, in this section we review the peer-reviewed, quantitatively oriented literature focused on the relationship between LLP participation and

student outcomes. The review focuses on work published between 1980 and 2010, including theses and dissertations. Readers interested in a summary of earlier works are directed to Blimling's (1998) meta-analysis of research focused on residential colleges, considering a subset of the larger universe of LLPs. In total, 25 studies are described below.

Our review is thematic and addresses research on the effects of participation in LLPs on the following sets of student outcomes and experiences: (a) performance, persistence, and attainment, (b) intellectual development, (c) faculty and peer interactions, (d) college transition, (e) campus life, and (f) attitudes and beliefs. Within each theme or sub-area, our approach is chronological, making it possible to trace the evolution of living–learning program research in that area. As such, we have focused on fully describing studies the first time we reference them. To guide the reader to relevant background information about a particular study, later mentions of a study's findings include a cross-reference to its earliest occurrence.

For the sake of consistency, we use a series of common conventions throughout this review. When possible, we present information about the full sample surveyed (N), response rates (RR), the resulting analytic sample (n) and, if the authors provided additional description, we disaggregate the above between traditional residence hall environments (TRHs) and one or more living–learning programs (LLPs). To the extent that additional information about those LLPs is provided, such as their purpose, focus, or theme, that data are presented, as well. Further, to simplify the description of multivariate models, we use several generic terms to describe commonly occurring sets of variables. For example, our reference to “student background characteristics” refers to a series of variables which may include any combination of sex, gender, race, family income, and the like. Similarly, “pre-college academic achievement” refers to any combination of high school GPA, rank, or standardized test scores.

We also attempted to standardize our description of authors' statistical findings. “Statistically significant” refers to any test statistic where $p \leq 0.05$ or better. When possible, effect sizes are reported (e.g., d or R^2). If authors did not report effect sizes, but they were calculable from other statistics reported in the manuscript, we generated our own estimates of effect size and indicated them with the “hat” character (e.g., \hat{d}). Means or mean differences (diff) were included only when information about the scaling of the original variable was provided or was felt to be commonly known (e.g., GPA using a four-point scale), or when a standard deviation could be reported to help provide the reader a sense of magnitude. Additional descriptive information about models (e.g., degrees of freedom, chi-squares, or information criterion) was included when provided.

The Role of the National Study of Living Learning Programs (NSLLP) in the Extant Scholarship

For more than a decade, we and our associates have maintained a multi-institutional research program focused on LLPs, much of it falling under the umbrella of the National Study of Living Learning Programs (NSLLP). Our initial goals for the

NSLLP were twofold. First, we sought to provide participating institutions information about the outcomes associated with LLP participation on their campus, relative to participation in TRH environments. Second, we sought to develop a research database that would begin to allow us to draw inferences about LLPs on a national scale. To date, the NSLLP has been administered nationally in 2004 and 2007, and described in a series of technical reports.

We chose not to include results from our technical reports in this review since they were not subject to peer review. However, the wealth of data that has come from the NSLLP has allowed a number of researchers to conduct their own secondary analyses, many of which have been subjected to peer review. Those works are included in this review and described below. So that the reader is aware that a reviewed study is derived from the NSLLP, the appropriate administration's technical report is referenced in the study's initial introduction. Readers interested in accessing the NSLLP technical reports can retrieve them from either www.livelearnstudy.net or the University of Maryland Libraries' Digital Repository (see Bibliography for more information).

We begin our review of the extant empirical research on LLPs with inquiries examining LLPs and students' academic performance.

Academic Performance

LLPs are often purported to improve academic performance, typically operationalized as an improvement in first semester or cumulative grade point average. Between 1980 and 2010, six studies explored the relationship between LLP participation and academic performance. Of those studies, two showed no evidence for a relationship between LLP participation and academic performance. The remaining four studies suggested positive associations between LLP participation and grade point averages for at least some respondents.

In what is among the earliest works focused on the outcomes of LLP participation, Pascarella and Terenzini (1980) sought to understand the relationship between LLP participation and first-year students' GPAs (see also Sections "Persistence," "Intellectual Development," "Faculty Interaction," "Peer Interaction," and "Campus Life"). Central to their analysis was the notion that interpersonal processes within a residential environment, such as student-faculty and peer-peer interactions, might mediate that environment's influence on student outcomes. To evaluate their hypotheses, the authors used a three-stage analytic strategy: (1) identifying potentially important processes within residential environments, (2) testing an OLS regression model of a residential arrangement's relationship to an outcome of interest, net of pre-college characteristics and not including process variables, and (3) if a statistically significant relationship between residential arrangement and the outcome of interest was noted, retesting the previous model after having incorporated process variables.

Using a sample of 773 first-year students ($RR = 53\%$; $LLP_n = 65$, or 8%; $non-LLP_n = 708$, or 92%), Pascarella and Terenzini (1980) regressed first-year GPA

on student background characteristics, educational aspirations, pre-college achievement measures, and expectations about collegiate intellectual and social life, in addition to an indicator of students' LLP participation ($R^2 = 0.47$, $F(16, 746) = 12.85$). Holding those factors constant, LLP participation ($\beta = 0.04$) was not a statistically significant predictor of performance ($F(1, 746) = 1.34$). As a result, the final phase of Pascarella and Terenzini's planned analysis—the possible role of interpersonal process variables—was not implemented for this outcome.

While Pascarella and Terenzini (1980) were not able to fully explore the mediating role of interpersonal process in their model of academic performance, Pike, Schroeder, and Berry (1997) were. In a frequently cited piece, Pike et al. explored the experience of 1018 (RR = 38%) first-year students, 13% ($LLP_n = 130$; non- $LLP_n = 888$, or 87%) of whom participated in any one of 22 residential freshman interest groups (FIG) that included a residential component, co-enrollment in a one-credit academic success seminar, peer advisors, and various co-curricular activities. Using a combination of student survey data and administrative records, the authors used two-group measured variable path analysis to compare the processes underlying academic performance of residential FIG participants and their non-participating peers. They noted no statistically significant difference between the first-year GPA of students who had participated in a residential FIG and those who had not, controlling for background characteristics, pre-college measures of academic ability, support from significant others, faculty–student interaction, and academic and social integration.

Five years later, Edwards and McKelfresh (2002) explored the relationship between participation in a residential college focused on the natural sciences and students' academic performance (see also Section "Persistence"). The authors gathered administrative record data on 342 students ($LLP_n = 81$, or 24%) and regressed students' first-semester and first-year GPAs on gender, a composite measure of pre-college academic ability, race/ethnicity, LLP participation, and a gender \times residential college interaction term.

Rather than providing regression coefficients for each predictor variable, Edwards and McKelfresh (2002) used the resulting equations to predict first-semester and first-year GPAs for each gender \times participation group, with the pre-college ability composite variable held at its mean. The main effect of participation was not statistically significant for either first-semester or full-year GPAs. However, the authors noted a gender \times participation interaction in the full-year GPA analysis: while women LLP participants ($\widehat{GPA} = 2.91$, $SE = 0.11$) had outcomes that were statistically indistinguishable from non-participants ($\widehat{GPA} = 2.92$, $SE = 0.06$), male LLP participants ($\widehat{GPA} = 2.86$, $SE = 0.12$) reported statistically significantly higher GPAs than did their non-participating male peers ($\widehat{GPA} = 2.46$, $SE = 0.07$).

While prior authors had drawn their LLP samples from a single (or single type of) LLP, Stassen (2003) contrasted the academic experience of students in one of three LLPs and their non-participating peers (see also Sections "Persistence" and "Academic Engagement and Co-curricular Involvement"). Following two cohorts of incoming students, she gathered administrative record ($N_1 = 3,948$ and

$N_2 = 3,580$; subsample statistics not presented) and student survey data ($\text{LLP}_{\text{RR}} = 59\%$, $\text{LLP}_n = 477$, or 59%; non- $\text{LLP}_{\text{RR}} = 62\%$, non- $\text{LLP}_n = 328$, or 41%) on both LLP non-participants and students participating in programs that exhibited varying levels of student collaboration, faculty collaboration, and group identity. Stassen conducted separate analyses for each cohort, regressing first-semester GPA on student background characteristics, pre-college ability measures, participation in academic support programs, field of study, and variables indicating the LLP in which students participated. Across both cross sections, participation in each of the three LLPs was associated with statistically significantly higher first-semester GPAs when compared with non-participation ($0.22 \leq \text{adjusted } R^2 \leq 0.27$; $0.12 \leq B \leq 0.22$; $0.03 \leq \beta \leq 0.10$).

Pasque and Murphy (2005) continued in Stassen's (2003) multiple-program tradition of analysis (see also Section "Academic Engagement") but aggregated participants from seven LLPs that varied by focus, intensity, and duration. They began by collecting survey data from 3,144 undergraduates of all class years ($\text{LLP}_{\text{RR}} = 78\%$, non- $\text{LLP}_{\text{RR}} = 56\%$). Then, the authors regressed an ordinal measure of cumulative GPA (1 = D+ or lower, 6 = A+ or A) on student background characteristics, high school grade point average, interaction terms between key social identities of interest to the authors (i.e., male/female, White/student of color, sexual orientation, and non-Christian/Christian religion), and an indicator of overall LLP participation. Regression results indicated that LLP participation was statistically significant ($B = 0.23$, $\beta = 0.11$, $\text{SE} = 0.04$) in the overall model ($R^2 = 0.12$; $F = 23.82$), holding other variables constant. Dividing the unstandardized coefficient by the standard deviation of the GPA variable ($\sigma = 0.49$) revealed that LLP participation was associated with a 0.47 standard deviation increase on the GPA measure.

Most recently, Purdie (2007) compared the relationship between first-year students' participation in one of three interventions designed to promote students' academic success, compared to non-participation. Three distinct interventions were considered, including (a) LLPs, (b) classroom-based first-year experience seminars (FYEs), and (c) residential FIGs, where groups of 15–25 students lived together and were co-enrolled in a series of four courses. Using four years of administrative records ($N = 13,932$, $\text{FYE}_n = 6\%$, $\text{FIG}_n = 29\%$, $\text{LLP}_n = 52\%$, non-participant $_n = 13\%$; RR = N/A), Purdie regressed first-semester GPA on student background characteristics, pre-college achievement measures, membership in a Greek-letter organization, on-campus residence, field of study, as well as a series of indicators of students' program participation. After controlling for other variables in the model ($R^2 = 0.39$), only participation in a FIG was statistically significantly related to first-semester GPA ($B = 0.04$, $\beta = 0.02$, $\text{SE} = 0.02$).

The studies reviewed above suggested at least some relationship between LLP participation and improved academic performance. It seems notable that studies with more robust models (e.g., pre-college expectations or post-entry interaction measures), as opposed to those that controlled only demographic characteristics (e.g., gender, family income, or parental education), evidenced either no effect (e.g., Pasarella & Terenzini (1980) and Pike et al. (1997)) or effects that were particularly small (e.g., Purdie (2007)). In Section "Critique of the Extant Literature," we consider the consequence of this finding for LLP researchers.

Persistence

Studies focused on the relationship between LLP participation and students' persistence are the second most numerous type of empirical research focusing on LLPs, represented by five works. This is far from surprising: conventional wisdom surrounding LLPs suggests that they create institutional microenvironments that assist students with navigating and integrating their academic and social experiences as well as create strong bonds with the campus community (Hummel et al., 2008; Schoem, 2004)—conditions traditionally related to student persistence (e.g., Tinto, 1993). The empirical evidence reviewed below, however, suggests only partial evidence that LLP participation may facilitate stronger persistence.

In addition to academic performance (above), Pascarella and Terenzini (1980) also sought to explore the relationship between LLP participation and student persistence. While their research indicated participation did not evidence a statistically significant relationship to academic performance, the authors found it initially exhibited a positive, statistically significant relationship to persistence through the first year of college ($\beta = 0.07$). However, after including variables representing student–faculty interaction, students' ratings of faculty concern for student development and teaching, and peer–group interactions, LLP participation was no longer a statistically significant predictor of persistence ($\beta = 0.02$). The authors concluded that while participation in an LLP does not contribute to persistence per se, participation afforded students access to environments characterized by powerful relationships between students, faculty, and their peers that promote student success.

The work of Pike et al. (1997) is amongst the most frequently cited example of persistence-focused LLP scholarship. The authors contrasted the experience of 2,678 first-year students, 13% of whom participated in a residential FIG program. Using a combination of student survey data and administrative records, the authors used two-group measured variable path analysis to compare the processes underlying persistence between residential FIG participants and their non-participating peers.

Pike et al. (1997) hypothesized that nine independent variables shared a direct, causal relationship with persistence, including gender (female), racial minority status, entering ability (measured by ACT score), support from significant others, faculty–student interaction, academic integration, social integration, academic achievement (measured by GPA), and institutional commitment. Indirect relationships among relationships were also posited, including those between student background characteristics and measures of interaction, integration, achievement, and commitment; those between interaction measures and measures of integration, achievement, and commitment; and, finally, between integration and achievement and commitment. By relaxing cross-model constraints on all intercepts and several structural equations (including those involving student background characteristics, faculty–student interactions, and persistence), good data model fit was attained ($\chi^2(42) = 54.97$).

After testing for a between-group difference in the persistence intercepts of both groups and finding none, Pike et al. (1997) concluded that participation in residential FIGs made no direct contribution to students' rate of persistence, controlling for other elements in the model. While they found no direct relationship between residential FIG participation and improved persistence, the authors noted that FIG participants did report greater institutional commitment and social integration than did their non-participating peers. No statistically significant difference was noted between groups' reported levels of academic integration.

In addition to their exploration of students' academic performance (above), Edwards and McKelfresh (2002) also considered three separate forms of persistence—to a student's field of study, to university residence halls, and to a student's second year of study—and its relationship to participation in a residential college. While they noted no effect on major persistence, the authors reported a statistically significant gender \times LLP participation interaction in their analysis of residence hall persistence (64.1% of male LLP participants were predicted to persist, compared to 13.7% of male non-participants) and a statistically significant ethnicity \times LLP participation interaction in their analysis of university persistence (89.5% of non-white LLP participants were predicted to persist, compared to 75.7% of non-white non-participants).

Although Stassen's (2003) prior work found uniform support for the notion that LLPs were positively related to students' academic performance, her findings vis-à-vis persistence through the first year were mixed. Analyses on her first cohort found a statistically significant relationship between participation in each of the three programs under investigation (a University Honors program, a selective talent advancement program [TAP], and an open-access residential academic program [RAP]) and reduced odds of attrition ($0.40 \leq e^{\beta} \leq 0.67$) net of student background characteristics, pre-college ability measures, participation in academic support programs, and field of study. However, the same analysis conducted on next year's cohort uncovered a statistically significant relationship ($e^{\beta} = 0.69$) for only one program, RAP. After disaggregating her analysis to consider voluntary versus non-voluntary withdrawal separately, Stassen found participation in only one program—again RAP—was statistically significantly related to decreased odds of attrition in both cohort years ($0.63 \leq e^{\beta} \leq 0.74$ for voluntary withdrawal and $0.51 \leq e^{\beta} \leq 0.56$ for involuntary withdrawal).

As a follow-up to her persistence-focused analyses, Stassen (2003) sought to identify whether LLP participants and their non-participating peers reported meaningful differences in persistence-related elements of their collegiate experience, including institutional commitment and a series of academic and social integration indicators. In the aggregate, LLP participants reported significantly greater levels of institutional commitment ($\alpha = 0.80$; four items, including "during this semester, to what extent have you felt a sense of community at this University") than did their non-participating peers. No statistically significant difference in mean institutional commitment was reported between specific LLP types.

While no statistically significant differences between LLP participants and their non-participant peers were noted on two of Stassen's three single-item indicators of

social integration, non-participants reported greater exposure to racial/ethnic diversity than did their participating peers. In stark contrast, LLP participants (in the aggregate) reported significantly greater means on six of seven indicators of academic integration than did their non-participating peers. They included academic work with peers ($\alpha = 0.79$; three items, including “how many times have you worked on homework with another student”), group project work (single item), positive academic behaviors ($\alpha = 0.59$; five items, including “how often have you come to class well prepared to answer questions or engage in discussions”), hours spent studying (single item), positive learning environments ($\alpha = 0.70$; six items, including “a lot of what I have learned in my courses can be applied to the real world”), and integration of ideas (single item): only the frequency of faculty contact was invariant between the two groups.

Purdie’s (2007) earlier finding that participation in a residential FIG was positively related to improved academic performance among first-year students was mirrored by his study of first-year persistence. Net of student background characteristics, pre-college achievement measures, membership in a Greek-letter organization, on-campus residence, field of study, and first-semester GPA, participation in a FIG was associated with increased odds of persistence ($e^{\beta} = 1.18$; Nagelkerke $R^2 = 0.35$, Cox and Snell $R^2 = 0.21$). Purdie noted no statistically significant relationship between FYE or LLP participation and persistence.

The mixed findings regarding the relationship between LLP participation and student persistence closely track those reported earlier about LLP participation and academic achievement: models with statistical control of college environment variables tend to show no (or a diminishing) direct relationship between LLP participation and persistence. However, there is evidence that LLP participation may exert a positive, indirect pressure on persistence by promoting its theoretical antecedents, including faculty and student interaction (Pascarella & Terenzini, 1980), social integration (Pike et al., 1997), academic integration (Stassen, 2003), and institutional commitment (Pike et al.; Stassen). This finding regarding LLPs’ direct and indirect effects on student outcomes will be discussed in more detail in Section “Critique of the Extant Literature” and has distinct methodological consequences for those interested in continued research into LLP programs’ efficacy.

Degree Attainment

Only one study we reviewed focused on degree attainment. Beckett (2006) sought to explore differences in attainment and time to degree between residential FIG participants and their non-participating peers, and whether those differences were robust to socioeconomic status. To do so, he used administrative records of 13,541 students (FIG = 28%, non-FIG = 72%) from four sequential cohorts (i.e., 1998–2001) of first-time (i.e., initially enrolled in the Fall and did not transfer more than 24 credits), beginning students.

To address his first question, Beckett (2006) regressed degree attainment on a series of predictors (including student background characteristics, measures of

pre-college ability, field of study) along with an indicator residential FIG participation. Holding other factors constant, FIG participation was significantly and positively associated with degree attainment ($e^{\beta} = 1.18$). However, interpretation of this finding is somewhat complicated by Beckett's inclusion of all cohorts in one analysis and the use of a dependent variable that ignores time to degree: in his initial analysis, his dependent variable might be more aptly characterized as "degree attainment for the first cohort after X years, for the second cohort after X-1 years, for the third cohort after X-2 years, and for the fourth cohort after X-3 years." Perhaps in recognition of this concern, Beckett's second analysis explicitly focused on time to degree, and the dependent variable was changed from "attainment" to "attainment within 4 years." The results were virtually identical: FIG participation was significantly and positively associated with degree attainment within 4 years ($e^{\beta} = 1.16$).

Beckett's (2006) third research question sought to understand residential FIGs' relationship to degree attainment among 3,811 students who were designated as "at risk" (i.e., parents' adjusted gross income of \$48,000 or less or a high school grade point average of 2.75 or less). He found that, similar to the prior full-sample analysis, FIG participation was significantly and positively related to "at-risk" students' probability of degree attainment ($e^{\beta} = 1.36$). On the basis that the odds ratio associated with FIG participation was greater in the "at-risk" analysis than it was in the full-sample analysis, Beckett concluded that residential FIG participation may disproportionately benefit "at-risk" students. This contention is not explicitly tested, however.

Intellectual Development

The literature focused on assessing the relationship between participation in an LLP and gains in intellectual development, writ large, is extensive. Making meaning of that literature is substantially complicated by uncertainty as to what is being measured, with the differences ranging from semantic to substantive. We review seven articles below. Irrespective of how the concept was operationalized, the bulk of the findings suggests that LLP participants reported greater intellectual development than did their non-participating peers.

Pascarella and Terenzini's (1980) work (see Section "Academic Performance") is the earliest study that we reviewed that included a measure of intellectual development ($\alpha = 0.74$; four items including self-reported gains in "applying abstractions and principles in problem solving"). When the authors regressed their first-year students' intellectual development scores on student background characteristics, educational aspirations, pre-college achievement measures, expectations about collegiate intellectual and social life, and an indicator of residence arrangement, a positive relationship between LLP participation and intellectual development was noted ($\beta = 0.10$, $F(1, 746) = 8.25$). However, when they included measures of mediating interpersonal process variables (e.g., faculty-student interaction and peer interactions), the residence arrangement variable was no longer a statistically significant predictor.

Clarke, Miser, and Roberts (1988) used survey data from 197 first-year students who lived in one of eight different residential environments that varied along three dimensions (LLP versus non-LLP \times faculty involvement versus no faculty involvement \times highly thematic versus non-highly thematic) to explore environment-related differences in a variety of outcome measures, including students' perceived academic development (see also Section "Satisfaction"). Controlling for a student's self-reported locus of control, the authors reported that the results of their factorial ANCOVA indicated LLP participants reported statistically significantly greater means on the development measure than did their non-participating peers. Unfortunately, Clarke et al. did not describe what was meant by academic development, mentioning only that it (along with several other outcomes) was measured using items adapted from earlier work by Pace and Astin. They also provide no data that would allow the reader to understand the magnitude of the difference observed between LLP participants and their non-participating peers.

Building upon the prior work of Pascarella and Terenzini (1980) and Pike et al. (1997), Pike (1999) used structural equation modeling techniques to identify group-related differences in the outcomes reported by 626 first-year students and to understand how characteristics of the collegiate environment contributed to students' intellectual development (see also Sections "Faculty Interaction," "Peer Interaction," and "Academic Engagement and Co-curricular Involvement"). Two scales from the College Student Experiences Questionnaire (CSEQ)—gains in general education ($\alpha = 0.76$; related to enjoyment of literature or understanding of art, music, or drama) and intellectual development ($\alpha = 0.82$; related to the ability to write clearly and think analytically)—were explored. In the first phase of his analysis, Pike found that LLP participants posted higher scores on general education ($\hat{d} = 0.27$) and intellectual development ($d = 0.10$) than did their non-participating peers.

After concluding that a mean difference existed between groups, Pike (1999) used structural equation modeling to identify relationships between variables he hypothesized to be antecedents of the intellectual development measures. In effect, Pike implemented an analysis that was analogous to an ANCOVA and a comparison of estimated marginal means. After controlling for student background characteristics, student involvement, interactions with peers and faculty, personal integration of course knowledge (e.g., engaging in activities that showed how different concepts fit together), and integration of course knowledge into conversations with others (e.g., discussions with peers), no statistically significant differences in general education and intellectual development gains were reported between LLP and non-LLP participants. Of course, the integration processes Pike saw as mediating intellectual development might be seen as indicators of intellectual development in and of themselves. However, Pike's analysis revealed that, after controlling for student background characteristics, involvement, and peer and faculty interactions, no statistically significant differences existed between LLP and non-LLP participants on either integration measure.

Pasque and Murphy's (2005) work on LLP participation and social identity sought to understand how interpersonal and residential forces might help foster student success (see Section "Academic Performance") and intellectual engagement

($\alpha = 0.80$; nine items, including “enjoyment of challenging intellectual pursuits”). Regressing engagement on a series of student background characteristics and interactions among them ($R^2 = 0.12$, $F = 23.82$), the authors found that LLP participation was a statistically significant predictor of students’ intellectual engagement ($B = 0.37$, $\beta = 0.10$). Given engagement’s reported standard deviation of 0.49, LLP participation was associated with a 0.76 standard deviation increase in the dependent variable.

Two studies by Inkelas and her colleagues, Inkelas et al. (2006a) and Inkelas et al. (2006b), included substantial investigations into the relationship between LLP participation and students’ self-reported gains in intellectual development. In the former, the authors reported on a four-institution study that enrolled 5,437 students (LLP = 45%, non-LLP = 55%), while in the latter they described a study that included 4,058 participants (LLP = 43%, non-LLP = 57%) from three institutions.

Five outcomes were unique to Inkelas et al.’s (2006a) first study, in which student responses from all three participating institutions were combined for analysis. They included self-reported growth in (a) critical thinking ability ($\alpha = 0.73$; six items including “exploring the meaning of facts when introduced to new ideas”), (b) application of knowledge ($\alpha = 0.69$; six items including “something learned in one class helped with another”), (c) enjoyment of challenging intellectual pursuits ($\alpha = 0.64$; four items including “enjoying the challenge of learning new ideas”), (d) developing a personal philosophy ($\alpha = 0.81$; four items including “developing one’s own values and ethical standards”), and (e) personalizing knowledge ($\alpha = 0.69$; four items including “preferring courses with material that helps me understand myself”). LLP participants reported statistically significantly higher mean scores than did their non-participating peers on three of the five measures, including critical thinking ability ($\hat{d} = 0.20$), application of knowledge ($\hat{d} = 0.13$), and enjoyment of challenging intellectual pursuits ($\hat{d} = 0.20$).

Two additional outcomes, growth in cognitive complexity ($\alpha = 0.82$; four items including “ability to critically analyze ideas and information”) and increased appreciation for liberal learning ($\alpha = 0.82$; four items including “openness to views I oppose”), were explored in both Inkelas et al. (2006a) and Inkelas et al. (2006b). While, as noted above, the former study combined student responses from all three institutions into one analytic sample, the latter analyzed each of its four institutional samples separately. The authors noted no statistically significant difference between LLP participants and their non-participating peers on the measure of cognitive complexity. However, LLP participants in both studies reported greater growth in their appreciation for liberal learning, on average, than did students who were not in LLPs (maximum $\hat{d} = 0.10$).

While Inkelas and her colleagues observed differences in intellectual development between LLP and non-LLP students, issues about how to interpret those findings remain (Inkelas et al., 2006a, b). The absence of a pre-test, for example, makes it difficult to disentangle the effects of LLP participation from students’ characteristics at entry, most notably unique motivations that spur students to participate in a living–learning program resulting in a form of self-selection bias. The amalgamation of multiple institutions in a single sample, beneficial in that it

minimizes the prospect that any one finding is idiosyncratic to a particular setting, may inadvertently confound institutional-level effects with those observed at the level of the student. However, the consistent use of psychometrically sound, factor-based scales—as opposed to single items—represents a substantial improvement over the methods of other quantitative studies of LLPs. These concerns related to the measurement of abstract learning concepts in LLPs are discussed later in the Section, “Critique of the Extant Literature.”

Eck, Edge, and Stephenson (2007) reported on survey data collected from 403 first-year undergraduates (LLP = 47% and non-LLP = 53%) who had been asked to rate their gains (1 = “not at all” to 7 = “significantly”) on several single-item outcome measures, including several that might be considered indicators of intellectual development. For example, the authors note that gain scores for LLP participants exceeded those of their non-participating peers on items including “[identifying] solutions for complex problems” ($\text{diff} = 0.36$), “decision-making skills” ($\text{diff} = 0.37$), “evaluate the quality of opinions and facts” ($\text{diff} = 0.51$), and “[ability] to see multiple sides of issues” ($\text{diff} = 0.77$; p. 7). Making meaning of these differences is complicated by two factors. First, while the authors noted that each of these differences were statistically significant at $p < 0.05$, no measures of effect size were presented, and the information needed to compute effect sizes post hoc were not reported. Second, the post-test-only nature of the design makes it impossible to determine whether the differences noted might reasonably be thought to be related to LLP participation, or whether they were artifacts of students’ entering characteristics or self-selection bias.

Most recently, Kohl (2009) used data collected by Inkelaas and Associates (2004) to explore differences in students’ self-reported critical thinking ability. His work involved 637 students at eight institutions who lived in one of three residential environments: residential honors LLPs (48%), LLPs focused on civic engagement or social leadership (19%), and traditional residence halls (33%). Using OLS regression, Kohl regressed critical thinking ability on variables representing student background characteristics, pre-college intellectual confidence, select institutional characteristics (i.e., size, selectivity, investment in student services, and location), student involvement, peer and faculty interactions, hall academic and social climates, and indicators representing residence in civic engagement LLPs and in TRH environments ($R^2 = 0.32$, $F(25) = 11.59$). No statistically significant relationship was noted between the indicator for participation in a civic engagement LLP (versus residential honors LLPs) and students’ critical thinking abilities, but residence in traditional halls versus residential honors LLPs was associated with lower critical thinking scores ($\beta = -0.33$).

Faculty and Peer Interactions

As noted earlier, enhancing participants’ interaction with faculty and peers is a key goal of LLPs. Several studies have examined the extent to which LLP participants report more frequent (or more consequential) interaction with faculty members and

other students. Below, we review five studies focused on faculty–student interaction and three studies focused on peer interaction, and the role LLP participation may play in augmenting both. Generally, these studies suggest that LLP participants report more frequent interaction with faculty and peers than do non-participants.

Faculty Interaction

Because of their interest in how interpersonal factors within residential environments influenced LLP participants' outcome attainment, both Pascarella and Terenzini (1980) and Pike (1999) contrasted the level of faculty–student interaction reported by LLP participants and their non-participating peers. Net of other factors (described above), Pascarella and Terenzini (1980) reported that LLP participation was associated with more frequent faculty interaction ($\alpha = 0.85$, five items including “my non-classroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes”) ($\beta = 0.110, F(1, 746) = 8.81$) and higher student ratings of perceived faculty concern for student development ($\alpha = 0.82$, five items including “few of the faculty members I have had contact with are generally interested in students,” reverse coded) ($\beta = 0.092, F(1, 746) = 6.27$) than non-participation. Similarly, Pike (1999) reported greater reported levels of faculty interaction ($\alpha = 0.84$, seven items derived from the CSEQ) among LLP participants than non-participants ($ES = 0.19$), net of student background characteristics and pre-college academic ability.

Using data collected from three cross sections of students ($N = 7,887$) participating in one of nine LLPs (37%), “neighbors” who did not participate in an LLP but lived in a building that housed one or more programs (32%), and non-LLP participants in wholly traditional residence hall environments (31%), Garrett and Zabriskie (2003) focused on identifying residence-related differences in faculty–student interaction. LLP participants reported statistically significantly higher mean scores on three of four measures of formal/academic interaction than did both their non-participating neighbors and non-participants who lived in wholly traditional residence halls, including (a) making an appointment to meet with faculty during office hours ($F(2) = 30.56$), (b) asking an instructor for course-related information ($F(2) = 10.35$), and (c) visiting informally with a faculty member before or after class ($F(2) = 25.28$). No statistically significant differences in formal student–faculty interactions were noted between neighbors and students who did not live in a building that housed an LLP.

Turning their attention to the four items representing informal/mentoring faculty–student interactions, Garrett and Zabriskie (2003) noted that, for each, LLP participants reported higher mean scores than did their neighbors and their non-participating peers who lived in traditional residence halls, including (a) attending cultural events with an instructor ($F(2) = 26.57$), (b) discussing personal concerns with a faculty member ($F(2) = 16.61$), (c) visiting informally with a faculty member at a social engagement ($F(2) = 74.29$), and (d) discussing vocational and academic concerns with a faculty member ($F(2) = 20.04$). This time, statistically significant differences between neighbors and students living in a building without an LLP

were noted, with neighbors reporting statistically significantly higher mean scores on measures of informal faculty interaction than did students in wholly traditional environments.

Inkelas and colleagues have also explored residence-related differences in student–faculty interaction. In Inkelaas et al.’s (2006a) four-institution study, no statistically significant between-group differences were noted on measures of course-related faculty interaction ($\alpha = 0.76$, three items including frequency of having “visited informally with instructors before or after class”), but LLP participants were more likely than non-LLP participants to report higher levels of informal faculty mentorship ($\alpha = 0.78$, three items including frequency of having “worked with instructors on independent projects”) ($\hat{d} = 0.15$). Inkelaas et al.’s (2006b) three-institution study yielded somewhat more equivocal results, with LLP participants at two of the three institutions reporting higher levels of both course-related faculty interaction and faculty mentorship ($0.01 \leq \text{partial } \eta^2 \leq 0.02$).

Peer Interaction

Both Pascarella and Terenzini (1980) and Pike (1999) investigated the relationship between LLP participation and peer interaction. Pascarella and Terenzini, who asked students to respond to items designed to tap their satisfaction with newly formed friendships and their perception that those relationships contributed positively to their growth and development ($\alpha = 0.84$; six items, including “since coming to this university I have developed close personal relationships with other students”), found a positive association between LLP participation and meaningful peer interactions ($\beta = 0.11$, $F(1, 746) = 9.31$). Pike’s work separated peer interaction itself ($\alpha = 0.89$; seven items, including “interacting with people who are different from you”) from the content of those interactions ($\alpha = 0.86$; ten items including frequency of talking about “major social problems”). Net of student background and pre-college characteristics, Pike noted that LLP participants reported statistically significantly higher means on both measures than did their non-participating peers (ES = 0.32 and 0.45, respectively).

Like Pike (1999), Inkelaas et al. (2006a) sought to develop more nuanced measures of student interaction. Distinguishing students’ peer interactions that were academically or vocationally focused ($\alpha = 0.75$; four items including “discussed something learned in class”) from those that were socially or culturally focused ($\alpha = 0.84$; six items including “discussed social issues”), Inkelaas et al. noted that, across the four institutions in her study, LLP participants reported more frequent interactions of both types than did their non-participating peers ($\hat{d} = 0.10$ and 0.20, respectively).

College Transition

Only one study we reviewed focused explicitly on students’ academic and social transition to college. Using data collected as part of the 2004 National Study of

Living–Learning Programs (Inkelaas & Associates, 2004), Inkelaas, Daver, Vogt, and Brown-Leonard (2007) compared the transition to college of 1,335 first-generation students who participated in LLPs to that of their non-participating peers (subsample distribution not reported). After controlling for students' pre-college confidence in handling the challenge of college-level work, LLP participants reported higher scores on Inkelaas et al.'s measure of ease of academic transition ($\alpha = 0.66$, three items including "ease of communicating with instructors outside of class") ($F(2) = 16.61$) than did their non-participating peers, although the effect size was very small (partial $\eta^2 = 0.03$). Similarly, using students' pre-college confidence that they would be able to feel a sense of belonging to their new campuses as a covariate, LLP participants reported higher scores on Inkelaas et al.'s measure of ease of social transition ($\alpha = 0.65$, three items including "ease of getting to know others in my residence hall") ($F(2) = 51.01$) than did non-participants. The effect size, however, was still quite small (partial $\eta^2 = 0.07$).

Campus Life

Four studies we reviewed focused specifically on students' perceptions of residence hall or campus climates. Generally, those studies have suggested that, compared to their non-participating peers, LLP participants report more socially and academically supportive residence hall and/or campus climates. Two other studies explored residence and race-related differences in students' perceptions of the campus racial climate and sense of belonging. The results of those studies suggest that sense of belonging is not directly related to LLP participation, but race and racial climate are influential.

Pascarella and Terenzini (1980) operationalized students' perceptions of campus academic and social climates as having two components: academic press and sense of community ($0.81 \leq \alpha \leq 0.87$). Net of student background characteristics, they found no difference between LLP participants' and non-participants' perceived sense of academic press (10 items, including "I have found my academic life at this university to be intellectual") and academic community (six items, including "I have found my academic life at this university to be sensitive"). However, the authors noted that LLP participation was related to students' greater sense of social press ($\beta = 0.07$, $F(1, 746) = 4.11$) and sense of social community ($\beta = 0.10$, $F(1, 746) = 7.13$), net of student background characteristics (both scales same as academic press and community, having replaced "academic life" with "non-academic life"). When Pascarella and Terenzini included variables representing student and faculty interpersonal processes, however, residential arrangement was no longer a statistically significant predictor.

Several studies by Inkelaas and coauthors have explored the relationship between students' perceptions of their campus residence halls as academically and socially supportive and their participation in LLPs. In a single-institution study, Inkelaas and

Weisman (2003) contrasted the experiences of three groups of LLP participants—those in a transition program ($N = 318$), an academic honors program ($N = 378$), and a disciplinary-based program ($N = 187$)—versus non-participants ($N = 1,277$). Statistically significant differences existed in group means for perceptions of both academically ($\alpha = 0.73$, five items including agreement with “I think staff in my residential environment spend a great deal of time helping students succeed academically”) and socially ($\alpha = 0.83$, six items including agreement with “I feel students in my residential environment have an appreciation for people of different religions”) supportive climates. Post hoc tests revealed that non-participants reported significantly less supportive academic climates than did peers in transition program ($\hat{d} = 0.33$) and disciplinary-based programs ($\hat{d} = 0.56$), and less supportive social climates than did peers in honors ($\hat{d} = 0.34$) and disciplinary-based programs ($\hat{d} = 0.21$).

Two later works, Inkelaas et al. (2006a) and Inkelaas et al. (2006b), evidenced similar findings. In their four-institution study, Inkelaas et al. (2006a) found that, across all institutions, LLP participants reported more academically supportive residence hall climates ($\hat{d} = 0.33$) and socially supportive residence hall climates ($\hat{d} = 0.42$) than did their non-participating peers. In a potentially related finding, Inkelaas et al. (2006a) reported that a statistically significant difference existed between LLP participants’ perceptions of the campus racial climate ($\alpha = 0.80$, six items including “interaction between students of color and White students”) and the racial climate as perceived by their non-participating peers, although the small benefit accrued to LLP participants was negligible at best ($\hat{d} = 0.05$). In a subsequent study, Inkelaas et al. (2006b) found that, with four institutions analyzed separately, LLP participants reported more academically supportive residence hall climates (partial η^2 ranging from 0.02 to 0.12) and socially supportive residence hall climates (partial η^2 ranging from 0.03 to 0.09) than did their non-participating peers.

Building on authors whose primary focus was identifying residence-related differences in students’ perceptions of residence hall and campus climates, the work of Johnson et al. (2007) sought to understand how those differences might affect students’ sense of belonging ($\alpha = 0.90$, five items including “I feel a sense of belonging to my institution”). First popularized by Hurtado and Carter (1997), sense of belonging is generally defined as a student’s perception that he or she is part of the larger campus community and is believed to be particularly salient to the persistence of students from groups traditionally underrepresented in postsecondary education. In that vein, Johnson and her colleagues sought to explore race-related differences in the sense of belonging of 2,967 first-year students, as well as the factors—including LLP participation—that contributed to the sense of belonging to students in each group.

Using data from Inkelaas and Associates (2004), Johnson et al. (2007) found race-related differences in students’ reported sense of belonging, with White students reporting greater sense of belonging than did their African-American, Asian-Pacific American, and Hispanic/Latino peers ($\eta^2 = 0.01$). No difference was noted between White students and students who were identified as multiracial/multiethnic.

Interested in the student background and college environment factors that were predictive of students' sense of belonging (including those that may have led to the observed group mean differences), Johnson et al. analyzed regression models for each racial group separately. Although each model evidenced some degree of variability ($8.54 \leq F \leq 21.89$; $0.30 \leq R^2 \leq 0.37$), net of factors including student background characteristics, institutional selectivity, peer and faculty interactions, ease of academic and social transition, and measures of campus climate, participation in an LLP was not statistically significantly related to students' sense of belonging for students in any racial group.

Johnson (2007) continued her investigation of students' sense of belonging with a sample of 1,722 women in science, technology, engineering, or mathematics (STEM) majors, using data from Inkelaas and Associates (2004). Participants lived in one of four residence arrangements: (a) all-female, STEM-focused LLPs (7%), (b) co-educational, STEM-focused LLPs (7%), (c) any other type of LLP (34%), and (d) traditional residence hall environments (53%). In a series of race \times residence arrangement ANOVAs, Johnson found statistically significant main effects for race vis-à-vis sense of belonging ($F(4, 1,481) = 10.69$, partial $\eta^2 = 0.03$), perceptions of a positive racial climate ($F(4, 1,627) = 4.01$, partial $\eta^2 = 0.01$), and interactions with diverse peers ($F(4, 1,653) = 51.15$, partial $\eta^2 = 0.03$). Post hoc analyses indicated that White students reported statistically significantly higher sense of belonging than did their African-American, Asian-American, and multiracial/multiethnic peers; Black students reported less positive perceptions of campus racial climates than did their Asian-American, multiracial/multiethnic, and White peers; and African-American, Asian-American, Latina, and multiracial/multiethnic students were more likely than White students to report interactions with diverse peers ($\alpha = 0.90$, nine items including frequency with which students reported "attending a social event" with someone of another race). In each analysis, the main effect for LLP participation—and the race \times LLP participation interaction effect—was not statistically significant.

Satisfaction

Relatively few authors have explored how participation in an LLP is related to student satisfaction, with only one relevant article appearing in a peer-reviewed journal. Clarke et al.'s (1988) work (see Section "Intellectual Development") found that first-year LLP participants were more likely than their non-participating peers to report satisfaction with job placement and counseling services, to have used those services, and to have reported changing their career choice, and that LLP participants were more likely than their non-participating peers to report satisfaction with the variety of courses available to them and the opportunity provided them to sample those courses.

Academic Engagement and Co-curricular Involvement

Given LLPs' emphasis on creating sites for meaningful curricular and co-curricular engagement, it is not surprising that several authors have explored the relationship between LLP participation and students' reports of involvement, both in and out of the classroom. We reviewed two studies that focused on students' academic engagement. On balance, the findings of those studies suggest that the level of academic engagement reported by LLP participants is greater than that of their non-participating peers.

Eck et al. (2007), introduced above, wrote their work “[provided] clear and convincing evidence that living–learning communities . . . are improving student engagement within . . . the classroom” (p. 7). Indeed, LLP participants in their study demonstrated higher mean scores than did their non-participating peers on ratings of participation in classroom discussions ($diff = 0.37$), oral presentation skills ($diff = 0.51$), writing skills ($diff = 0.69$), and “meaningful class discussions” ($diff = 0.62$, p. 7). Unfortunately, the absence of descriptive statistics required to compute appropriate effect sizes for the differences noted and the post-test-only nature of the study's design makes it impossible to validate the authors' initial claim.

Arms, Cabrera, and Brower's (2008) work provided stronger evidence of the relationship between LLP participation and academic engagement. As part of a larger study focused on students' ($N = 257$) experiences with academic advising, Arms et al. explored the relationship between the site of advising services (i.e., at a central advising office (44%), in a traditional residence hall (42%), or in an LLP (14%)) and students' ratings of advisee–advisor engagement ($\alpha = 0.84$; five items, not described) and participation in enriching educational experiences ($\alpha = 0.84$; eight items, described as being derived from the National Survey of Student Engagement and the NSLLP).

Net of background characteristics, pre-college academic ability, and expectations, Arms et al. (2008) noted no statistically significant relationship between the site at which a student received his or her academic advising and subsequent advisee–advisor engagement. However, their regression of enriching educational experiences on a similar model including advisee–advisor engagement suggested that, net of other factors, students who received their advising in an LLP—presumably a proxy for LLP participation itself—reported greater frequency of participation with enriching educational experiences than did those who received their advising elsewhere ($B = 0.29$, $\beta = 0.11$). Given a scale standard deviation of 0.69, participation in an LLP was associated with 0.42 standard deviation increase in the outcome of interest.

Other work has focused on involvement in campus or residence hall activities, noting that LLP participants have generally reported greater levels of interaction than did non-participants. Pike (1999), for example, noted that LLP participants reported greater involvement in the arts, music, and theater ($\alpha = 0.84$; derived from the CSEQ), in clubs and organizations ($\alpha = 0.90$; derived from the CSEQ),

and in the residence hall (derived from the CSEQ) than did their non-participating peers, net of pre-college factors ($ES = 0.42, 0.45$, and 0.31 , respectively). Similarly, Brower, Golde, and Allen (2003) reported that LLP participants were disproportionately represented among students who reported having been “somewhat or very involved” in hall activities and having participated in campus activities or community service “often or very often,” compared to their non-participating peers. Finally, Inkelaas et al. (2006b) noted that, across each of the three institutions they studied, LLP participants were more likely than non-participants to have reported involvement in cross-cultural student organizations.

Attitudes and Beliefs

Studies of the role of LLP participation in attitude formation are relatively rare in the peer-reviewed scholarship. Published research has followed three streams: (a) physical wellness, (b) diversity and multiculturalism, and (c) civic engagement.

Brower et al. (2003) were the first to consider the LLP’s power to shape educationally purposeful social norms in a study of first-year students’ binge drinking behaviors. The authors contrasted the experiences of 137 LLP participants and 125 non-LLP participants on three dimensions: (a) frequency of binge drinking, (b) experiences of the primary effects of alcohol abuse (i.e., those caused by one’s own use), and (c) experiences of the secondary effects of alcohol abuse (i.e., consequences of others’ use). In addition to reporting a higher frequency of lower risk drinking (one or fewer drinking episodes since entering college) than did their non-LLP peers (22 versus 10%), LLP participants were less likely than their non-LLP peers to report episodes of binge drinking (38 versus 57%). Brower et al. also found that LLP participants reported fewer primary consequences of their own alcohol use (e.g., poor academic performance or physical symptoms), as well as fewer secondary consequences as a result of the alcohol use of others (e.g., disturbances to the living environment or verbal or physical assaults), than did their non-LLP peers.

Subsequently, Brower (2008) used data collected by Inkelaas and Associates (2007) to explore high-risk drinking behaviors in a larger sample of LLP and non-LLP participants ($RR = 33\%$; $N = 23,910$; $LLP_n = 11,669$, or 49% ; and $non-LLP_n = 12,241$, or 51%). His findings corroborated those of Brower et al. (2003). Specifically, Brower found that LLP participants were significantly more likely (30.8%) than non-participants (23.6%) to report being non-drinkers ($\chi^2 = 1,13.9$), and, among students who did drink, LLP participants reported less binge drinking (62.4%) than did non-participants (69.7%, $\chi^2 = 71.8$). LLP participants also reported statistically significantly lower rates of both primary and secondary effects of alcohol use than did their non-participant peers.

Eck et al. (2007) also considered the connection between LLP participation and increased wellness among first-year college students. Unfortunately, the way in which the authors presented their findings makes it difficult to understand the interplay between LLP participation and issues related to health and wellness. While

the authors reported that LLP participants evidenced a higher mean on an item asking respondents to rate the gain (1 = “not at all” to 7 = “significantly”) in their “ability to deal with stress” ($\text{diff} = 0.41$) than did their non-participating peers, LLP participants also reported higher means on “the impact of drug use” ($\text{diff} = 0.43$), “the impact of alcohol consumption” ($\text{diff} = 0.56$), and “college students’ sexual issues” ($\text{diff} = 0.52$). Although the authors are not clear that *all* items represented gains in the “ability to deal with” a given wellness issue, the positive tenor of Eck et al.’s discussion would suggest we should interpret their findings in a favorable light.

Pike’s (2002) exploration of the relationship between residence arrangement and students’ openness to diversity contrasted the experiences of 502 first-year college students living in one of four environments: (a) traditional residence halls (33%), (b) “sponsored learning communities,” thematic communities that focused on building social networks among students (23%), (c) first-year interest groups, which involved small groups of first-year students in the same floor of a residence hall who were enrolled in a core of common classes (30%), and (d) off-campus (14%). He hypothesized that openness to diversity ($\alpha = 0.79$; five items, including “I enjoy talking with people who have values different from mine”) was directly influenced by students’ background characteristics, college experiences (e.g., faculty and peer interactions), perception of campus press for diversity, and place of residence, as well as through several indirect relationships among those constructs.

Using a single-group, measured variable path analysis, Pike (2002) concluded that, net of other factors in the model, residence in any of the three on-campus living arrangements had a statistically significant, positive direct effect on students’ openness to diversity ($\text{TRH} = 1.23$, $\text{SLC} = 1.33$, and $\text{FIG} = 1.65$). However, only participation in a FIG evidenced a statistically significant indirect effect on openness to diversity ($\text{ES} = 0.53$), suggesting that this environment—notably the one most akin to the prototypical LLP—was uniquely capable of shaping other facets of a student’s college experience in ways that promoted development. Lacking in Pike’s approach is a post hoc test of which of the groups (if any) evidenced statistically significantly different levels of openness to diversity from each other.

In their four-institution study, Inkelaas et al. (2006a) explored diversity appreciation ($\alpha = 0.75$; three items, including having “learned about other racial/ethnic groups”), positivity of diversity climate ($\alpha = 0.80$; six items, including “frequency of cross-racial interaction”), and the frequency of interactions with diverse peers ($\alpha = 0.89$; nine items, including “attending social events together”) reported by LLP participants and their non-participating peers. LLP participants reported higher means on Inkelaas et al.’s measure of diversity appreciation, although the effect size was negligible ($\hat{d} = 0.06$). The differences between LLP participants and their non-participating peers on diversity climate and interaction measures were also statistically significant, but effects remained negligible ($\hat{d} = 0.05$ and 0.11 , respectively).

Finally, Rowan-Kenyon, Soldner, and Inkelaas (2007) explored the relationship between residence arrangement and students’ sense of civic engagement, contrasting students ($N = 1,034$) who participated in civic engagement-focused LLPs

($n = 34\%$), LLPs not focused on civic engagement ($n = 33\%$), and traditional residence hall environments ($n = 33\%$), using data collected as part of Inkelas and Associates (2004). Rowan-Kenyon et al. noted that, after holding constant students' pre-college measure of the importance in co-curricular involvement, participants in civic engagement-focused LLPs reported a higher mean score on the authors' measure of civic engagement ($\alpha = 0.92$; 10 items, including importance of "working with others to make the community a better place") than did their peers living in LLPs not focused on civic engagement or in traditional residence hall environments (partial $\eta^2 = 0.03$). However, when the authors evaluated a larger model that regressed civic engagement on student background characteristics; current co-curricular involvement; peer and faculty interactions; self-reported development in critical thinking, personal philosophy, and interpersonal self-confidence; and indicators of LLP participation, no statistically significant effect for LLP participation remained.

Self-efficacy

Only one study we reviewed explored the relationship between LLP participation and a student's self-efficacy, or a sense that one is capable of performing a particular activity or achieving a particular goal. Kamin (2009) explored sophomore students' sense of academic self-efficacy ($\alpha = 0.78$; seven items, including belief student would "do well academically") using a sample of 4,700 students (LLP = 46%, non-LLP = 54%) drawn from 47 institutions nation-wide. She found that LLP participants reported higher self-efficacy than did their non-reporting peers, with a moderate effect size (partial $\eta^2 = 0.11$).

Psychosocial Development

Finally, Leinwall (2006) explored the relationship between LLP participation and aspects of students' psychosocial development, popularized by Chickering (1969) and Chickering and Reisser (1993), and as measured by the Student Development Task and Lifestyle Assessment (SDTLA; see Winston, Miller, and Cooper, 1999). In particular, she explored three developmental tasks (and their subtasks) traditionally associated with college students, including (a) developing mature interpersonal relationships, (b) developing autonomy, and (c) establishing and clarifying purpose. Neither specific items nor study-specific psychometric information was presented, although Leinwall noted that prior work with the SDTLA had suggested Cronbach's alpha for its scales ranged from 0.62 to 0.88. A total of 229 respondents participated (LLP = 54%, non-LLP = 46%), all sophomores who had been exposed to either 2 years of participation in one of 12 LLPs or 2 years of the institution's traditional residence hall environment.

Using a 2×2 ANOVA design (LLP versus non-LLP \times male versus female), Leinwall (2006) noted no statistically significant main or interaction effects for LLP

participation on measures of students' development of mature interpersonal relationships or establishing and clarifying purpose. A statistically significant main effect for residence arrangement was noted on the SDTLA scale for developing autonomy, where LLP participants reported higher means than did their non-participating peers ($F(1, 224) = 10.29$, partial $\eta^2 = 0.04$). Subsequent analysis of autonomy subscales revealed statistically significant differences favoring LLP participation on students' reported emotional autonomy ($F(1, 224) = 5.05$, partial $\eta^2 = 0.02$) and interdependence ($F(1, 224) = 12.30$, partial $\eta^2 = 0.05$). No statistically significant difference was noted between LLP participants and their non-participating peers on two other subscales, academic and instrumental autonomy.

Together, the empirical literature suggests that—at best—LLP participation is tenuously linked to a variety of positive student outcomes. Those studies that did find significant differences in outcomes among LLP students and traditional residence hall students (e.g., Brower, 2008; Brower et al., 2003; Clark, Miser, & Roberts, 1988; Eck et al., 2007; Inkelas, Daver, Vogt, & Brown-Leonard, 2007; Inkelas et al., 2006b; Inkelas & Weisman, 2003; Kamin, 2009; Pike, 2002, 1999; Rowan-Kenyon et al., 2007), or significant relationships between LLP participation and specific student outcomes (Beckett, 2006; Pasque & Murphy, 2005; Purdie, 2007) tended to show modest effect sizes. Moreover, several researchers reported conflicting findings in their own studies regarding the utility of LLPs on a range of outcomes (Edwards & McKelfresh, 2002; Inkelas et al., 2006a; Stassen, 2003). Even more troubling, however, are the methodological vulnerabilities present in every study of LLPs; the section below summarizes some of the major shortcomings of the empirical research.

Critique of the Extant Literature

Just as the LLP literature is divided into practitioner-based and empirically derived sets, so is the critique of this literature. Accordingly, this section is divided into two sections: the first section focuses on methodological limitations of the empirical literature and the second describes the conceptual limitations of the practitioner literature. We conclude with recommendations for future research and practice, largely based upon the limitations highlighted in this section.

Critique of the Empirical Literature

Selection Bias

The most salient threat to all living–learning research is the bias introduced by students' self-selection to LLP participation. In a true experiment, subjects (here, residential students) are randomly assigned to either the treatment (an LLP) or the control (a TRH environment) condition in order to control for differences between subjects. The reality of living–learning research, however, is that campus

practice makes true experiments impossible: students elect to participate in LLPs, and Housing/Residence Life Offices allow them to do so.

What distinguishes LLP participants from their non-participating peers? For that matter, what distinguishes a student who lives on campus and a student who, for whatever reason, does not or cannot? Indeed, it is easy to identify numerous differences between these student populations. Each difference represents a potential source of variation in student outcomes that confound measurement of the “LLP effect”: financial resources, social capital, and differences in motivation are but a few of the factors that might differentiate the two groups. The presence of these uncontrolled factors threatens the internal validity of each of the reviewed studies, as it does for all quasi-experimental (or non-experimental) designs.

Institutions may hesitate to allow true experiments to assess the efficacy of LLPs for several reasons, including the need to actively manage revenue by keeping residence hall bed spaces full, a desire to make the LLP experience available to all those interested, or assignment to an LLP program by virtue of another process, such as receipt of a scholarship or participation in a special program. As a result, better quasi-experimental research methods are needed. Although several exist, only one study—the NSLLP—implements even the most rudimentary control, a form of blocking. Keeping in mind the NSLLP’s original focus as a tool for campus-based practitioners, its sampling design included a full or random subsample of all LLP participants, as well as a sample of TRH students matched by race/ethnicity, gender, academic class level, and residency. To the extent that these characteristics influence students’ selection choices, they help attenuate error in campus-level analyses.

Single-Program/Institution Studies and Generalizability

With the exception of studies stemming from the NSLLP, all the works we reviewed relied upon samples drawn from a single campus. Often, the living–learning component of samples was further narrowed by being drawn from only a single program. While single-program, single-campus studies can be highly informative within a local context, generalizing their findings to other settings presents a significant challenge. Perhaps the greatest stumbling block in generalizing findings from a single-program, single-campus study is knowing, with any degree of certainty, whether the LLP under study is similar to the one (or ones) to which the reader is trying to abstract. The substantial variability in the types of LLPs in existence today is a testament to the creativity of practitioners, but represents a substantial methodological barrier to the researcher.

Multi-program/Institution Studies and Nested Data

Unfortunately, while single-program studies are problematic for generalizability reasons, multi-program and multi-campus studies are also vulnerable due to nested data concerns. Several studies reviewed above (e.g., Pike et al., 1997 or Pasque & Murphy, 2005) co-mingle students from different LLPs on a single campus in one analysis (see Stassen, 2003 for a notable counter-example). While this is often

necessary to generate the sample sizes needed for more complex analyses, combining results across differing programs can mute (or accentuate) true differences. Ignoring nesting can also violate the basic statistical assumptions of ordinary least squares regression, a common analytic technique for LLP data. Both can result in biased parameter and standard error estimates and incorrect inferences. This problem is compounded when multiple campuses are involved in a research design, as even more programs are combined and students are influenced by forces operating at the both the programmatic and institutional levels.

Numerous statistical strategies have evolved to address multi-level data, including multi-level structural equation modeling (SEM), hierarchical linear modeling (HLM), and mixed models. Multi-level analysis in this context has three potential benefits. First, it seeks to overcome an assumption of traditional regression analysis that residuals are uncorrelated, which is unlikely when clustering occurs within a program or an institution. Second, it seeks to explain relationships between characteristics of clustered observations and the clustering variable, such as institution and/or program effects on students. Finally, it seeks to generate more accurate parameter and standard error estimates at the level of the student (level 1) and the level of program or schools (level 2 or levels 2 and 3, depending upon the model's formulation). Because of their associated benefits, conventional wisdom among a growing number of consumers of educational research is that multi-level models are requisite in all nested data situations. However, these models are not always a practical analytic alternative: if the number of clusters is too low, no reliable inference can be made about cluster-level variables. Readers interested in learning more about multi-level models are directed to Bryk and Raudenbush (1992).

Single-Equation Regression Model Analyses

Studies that employ a single-equation regression model to evaluate the relationship between LLP participation, one or more additional predictors, and an outcome of interest (e.g., Arms et al. (2008), Kohl (2009), and Rowan-Kenyon et al. (2007)) often pose other problems, including an assumption of parameter invariance across the LLP and non-LLP groups and the obfuscation of indirect effects. Pasque and Murphy (2005) provide a simple example of the first problem, where an outcome is predicted only by demographic covariates (and the interactions among them) and a participation variable. In their model, a single effect (an unstandardized or a standardized regression coefficient) is estimated for each covariate or interaction term, parcelling out any remaining between-group variance to the variable indicating LLP participation. While this provides a simple estimate of the LLP effect—participation in an LLP results in a change in the outcome variable equal to the value of the unstandardized coefficient—it also forces readers to assume that the relationship between each covariate and the outcome is the same for LLP and non-LLP participants.

In a simple, covariate-only model, the assumption of parameter invariance may not introduce significant bias. Practically, the extent of invariance is an empirical question: by estimating each regression model separately, it is possible to evaluate

whether the regression coefficients associated with a given variable across two or more models differ in a statistically significant manner. After conducting such tests, it may well be that a single model approach is appropriate.

When models become more complex, however, the use of a single regression equation with a dummy variable for participation becomes more problematic. Consider the model advanced by Rowan-Kenyon et al. (2007), in which facets of the residential environment are included as predictors along with demographic characteristics and a variable indicating LLP participation. Their proponents have argued that LLPs purposefully shape residential environments to promote student outcome attainment, suggesting not just a quantitative difference (more of something) but also a qualitative one (something different). Accordingly, then, assuming an invariant relationship between LLP participants and non-LLP participants among college environments, LLPs might reasonably shape an outcome of interest and thus may not be appropriate to include in the same analysis as the other college environment measures. For example, understanding whether faculty mentorship is more strongly related to outcome in the LLP environment than it is in the TRH environment is a reasonable research question, and one that can best be evaluated when regression (or other) models are run separately.

In that same vein, the single-equation regression model approach to analysis may fail to acknowledge indirect effects of a predictor variable on an outcome of interest. Decades ago, Pascarella and Terenzini (1980) noted that the direct effect of LLP participation on student outcomes often disappeared when measures of interpersonal processes were included in subsequent models. As a result, they concluded it was not LLPs per se that caused differences in student outcomes but instead that LLPs created environments where educationally purposeful and powerful relationships flourished, ultimately driving student learning and development. Because of the flexibility it affords modelers, multiple-group structural equation models (SEMs) may be the optimal analysis of choice that addresses the concerns of invariance and indirect effect estimation. More information on SEM can be found in Section “Recommendations for Future Living–Learning Research and Practice.”

College Environment and Student Outcome Measures

With a few notable exceptions (i.e., persistence and grade point average), researchers operationalize the majority of the constructs representing key elements of the college environment (e.g., peer interaction) or important student outcomes (e.g., intellectual development) using students responses to multiple survey items. Two issues emerge: (a) the psychometric characteristics of the items themselves and (b) the statistical treatment of students’ responses to them. We address each below.

When developing survey instrumentation, researchers are faced with the choice of using measurement scales created by other scholars, or developing their own. Almost without fail, the living–learning literature evidences the former practice.

Pike et al. (1997), for example, cite the work of Nora and Cabrera (1996) as the source of scales related to academic and social integration, while Arms et al. (2008) cite both the NSLLP (Inkelas & Associates, 2004) and the NSSE (National Survey of Student Engagement, 2007) as the inspiration for the development of their “enriching educational experiences” scale.

The use of item sets in multiple contexts can generate valuable data about a measure’s stability and can facilitate comparability. However, it is incumbent upon the researcher to investigate the psychometrics of the instrumentation they plan to use. The most commonly reported psychometric statistic reported in the studies we reviewed was a scale’s Cronbach’s alpha, typically suggested as an indicator of reliability. It is important to remember, though, that Cronbach’s alpha provides information about only one aspect of reliability—a scale’s internal consistency—and not other components, such as test-retest reliability. Researchers should also remember that Cronbach’s alpha is sample specific, so while reporting prior studies’ α values may be informative, it does not replace re-calculating the α with one’s own sample.

Perhaps more problematic are items’ validity. Inkelas et al. (2006b), for example, reported on efforts to establish validity of the 2004 NSLLP scales in four ways, including the use of expert raters to assess the reasonableness of items (face validity), testing for correlation among like constructs (convergent validity) and the lack of correlation among differing constructs (divergent validity), and looking for evidence of theoretically implied differences in scale scores between groups (discriminant validity). However, while exploratory factor analyses conducted on both the 2004 and 2007 NSLLP data sets (Inkelas & Associates, 2004, 2007) have revealed a consistent factor structure in whole-sample analyses, additional tests, such as confirmatory factor analyses for important analytic subgroups or more rigorous efforts to establish content validity, have not yet been conducted. This sort of work is critical to advance the scholarship of LLPs, and to promote confidence among consumers of living–learning research in research findings.

A related matter is the statistical treatment of data gathered via measurement scales, particularly those scales that purport to measure a latent (unobservable) factor. The general practice of each study reviewed above was to sum students’ responses to a scale’s constituent items, and allow that sum to serve as a measured variable in subsequent analyses. Doing so, however, ignores information gleaned from exploratory (or confirmatory) factor analyses about the proportion of variance in an item (i.e., its loading) that is attributable to the common underlying factor and that which is a measurement error. As a result, measurement error from each item accumulates in the final scale score. If the researcher plans on using scale scores in subsequent measured variable analyses (e.g., t -tests, ANOVA, or regressions), using the results of exploratory factor analyses to generate factor scores may be a tenable solution (for more information, see Grice (2001)). A potentially preferable solution, the use of latent variable approaches, is discussed in Section “Recommendations for Future Living–Learning Research and Practice.”

Critique of the Practitioner Literature

Like its empirical literature counterpart, the practitioner literature on living–learning programs is not without its limitations. Before concluding with recommendations for the future of living–learning scholarship in general, we highlight some of the key liabilities in the practitioner scholarship.

Lack of Precision in Labeling and Defining Living–Learning Programs

Living–learning programs have been referred to by any number of different names, including residential learning communities, living–learning communities, living–learning centers, living learning programs (no hyphen), theme houses, or residential colleges. Indeed, the word “living–learning program” is a constructed term appropriated by the authors of this chapter. This lack of consistency in its name, however, has several negative consequences. First, searching for literature focusing on this type of intervention is difficult because of the various ways these programs are labeled in different scholarship. Second, newcomers and experts alike in living–learning programs have difficulty in articulating *if* there are any differences among the programming elements represented in the various names (e.g., Are residential learning communities the same thing as living–learning programs? Do residential colleges merely signify the “Oxbridge” version of living–learning programs? Are theme houses just living–learning programs without the academic content?). Finally, because all of the above terms are often used interchangeably, it is difficult to construct an appropriately tailored definition of living–learning programs. If the characteristics that may differentiate, say, theme halls from residential learning communities from living–learning programs are indistinguishable or entangled by most researchers and practitioners, then subsequent scholarship and practice regarding living–learning programs is ambiguous or confusing, at best.

Lack of a Comprehensive Typology of Living–Learning Programs

A further complication resulting from a lack of a clear definition of living–learning programs is that it is practically impossible to construct a comprehensive typology of LLPs when there is no consensus as to what constitutes an LLP in the first place. What remains, then, are three typologies that attempt to classify LLPs in varying unsystematic ways. Based on observation and word of mouth, Zeller et al. (2002) identified five types of programs, while Schoem (2004) described only three types. Inkelaas and Associates (2004, 2007) identified 41 different types of LLPs in their multi-institutional study, but the authors themselves admitted that their criteria for what constituted a “living–learning program” were fairly broad (i.e., programs based in a residence hall, with staff dedicated to that program, and with activities customized directly for students in that program). To their credit, however, the three attempts to create LLP typologies may represent a way to constrain the parameters of what may and may not be described as a living–learning program. The difference

between 3 and 41 is substantial; yet, there is no agreement or mechanism through which one can assess whether one end of the continuum is more or less accurate in accounting for the various types of LLPs in existence.

Best Practices According to Whom?

A final limitation of the practitioner literature concerns the “best practices” form of scholarship. In general, the best and core practices literature is written by practitioners who have created and run LLPs on their campuses, and now are offering advice to others following in their footsteps based on lessons they have learned over the years from their own experiences. Thus, this form of literature is not typically based on empirical data, unless it is the “ $N = 1$ ” variety. Two serious consequences are associated with this form of literature. First, the individual LLPs that these authors identify as “best practices” are based largely on reputation, but there is little-to-no evidence that these programs achieve the goals and objectives that they were designed to attain. Thus, the scenario could arise in which a “best practice” is actually *ineffective* in achieving its lofty goals but continues to carry a strong reputation based on word of mouth alone. Second, if certain LLPs are branded as “best practices” but it is likely that not all elements of their programming are effective (and this will remain unknown as long as no assessment of these programs is undertaken), then subsequent practitioners who wholesale copy the programmatic structures of the “best practice” will subsume not only the beneficial aspects of the program but the disadvantageous as well.

Recommendations for Future Living–Learning Research and Practice

Although the living–learning practitioner and empirical literature is somewhat disconnected from one another, together they suggest several gaps that, if filled, will substantially improve our knowledge of and work with LLPs. We believe that the following three recommendations will not only move living–learning scholarship forward with greater sophistication but also create a foundation from which more effective living–learning practice can be developed and sustained.

Establish a Living–Learning Program Clearinghouse or Set of Professional Standards

First, we believe that there needs to be a clearinghouse for living–learning practitioners and researchers alike that provides information and resources on LLPs. In the realm of learning communities, the Washington Center for Improving the Quality of Undergraduate Education provides such a repository, called the National

Learning Communities Directory. The Directory provides resources and publications on learning community implementation and assessment, a summer institute for learning community campus teams, a listserv in which users can dialogue with one another, and a peer-reviewed journal, the *Journal of Learning Communities Research*. Although living-learning programs are often considered a sub-type of learning community, the Washington Center Directory focuses more heavily on the curricular type of learning community. Indeed, there is barely any mention of living-learning programs in the Directory. Moreover, living-learning programs have proliferated at such an expansive rate and involve partnerships between academic and student affairs units (which many types of learning communities do not) that they deserve their own clearinghouse.

The first task for such a clearinghouse is to provide a common definition of what constitutes a living-learning program. Just as many of the Washington Center stakeholders have defined and provided models for learning communities (Gabelnick et al., 1990; Smith et al., 2004), so too must the gatekeepers of living-learning programs. Further, the clearinghouse could work with the NSLLP (so far the largest, multi-program and multi-campus study of living-learning programs) to develop a truly comprehensive LLP typology, with all variations of programs remaining consistent with the common definition. The creation of a definitive typology would certainly pave the way for much stronger and more targeted research differentiating the effects of different types of LLPs on various student outcomes.

Some of the other activities of the living-learning program clearinghouse might include providing a repository for the extant practitioner and empirical research on LLPs. Also, researchers studying LLPs might work collaboratively to develop stronger instruments to measure both LLP participation and student outcomes associated with LLP participation, including evidence of reliability and validity of the items. A common set of measures would allow for a better comparison of data across studies. Practitioners running LLPs could use the clearinghouse to share resources or assessment tools. And, similar to the National Learning Communities Directory, the living-learning clearinghouse could provide seminars or institutes, or even its own journal or newsletter.

If the creation of a clearinghouse for living-learning programs is not possible, then an alternative might be the development of professional standards for LLPs through an agency like the Council of the Advancement of Standards (CAS). CAS is an organization that promotes a set of professional standards for student learning and development support programs and services and related higher education initiatives. Included in its portfolio are 35 different sets of standards for various programs and services ranging from Admissions Offices to Counseling Centers to Campus Activities Offices. In addition to a list of standards for each of the 35 functional areas, CAS provides self-assessment guides for institutions in order to ascertain where they meet, exceed, or fall short of the standards. If CAS were to create a set of standards for living-learning programs, the criteria for the standards and the accompanying self-assessment guide could de facto become a common understanding of what constitutes a living-learning program and what does not.

Use More Expansive and Rigorous Analytical Methods in Living–Learning Research

In addition to the collaborative development of measures to study LLPs advocated for in the living–learning clearinghouse, this review of the literature has uncovered several recommendations for future research on LLPs. Although the extant literature is replete with single-program or single-institution studies, the next generation of living–learning research must be conducted at the multi-program and multi-institutional levels. Idiosyncratic results arising from a single source will not contribute to a broader understanding of the utility of living–learning programs writ large. Moreover, with so many different types of LLPs in existence, more inquiry must be done on differences in outcomes among different types of programs.

For this kind of investigation to move forward, however, two related study design features must be advanced. First, study samples must be large enough to support sub-analyses by LLP. As has already been discussed, analyses that combine multiple LLPs together (e.g., Program 1 + Program 2 + Program 3 = LLP participation at a given school) in an LLP versus non-LLP comparison may be combining very different types of programs together arbitrarily—an apple versus an orange situation. Combining various programs into one amorphous group may mask differences among programs, as well as stimulate erroneous inferences. Second, there must be an agreed-upon typology through which various LLPs can be categorized. If we are to perform sub-analyses by program and wish to generate generalizable results, researchers must be using the same typology of programs so that we may compare “apples to apples.”

Multi-program and multi-institutional data, on the other hand, introduces an additional wrinkle to analytical decision making when studying LLPs. As discussed previously, data involving multiple levels (e.g., student data = level 1; program data = level 2; institutional data = level 3) is usually best analyzed using statistical techniques—such as hierarchical linear modeling (HLM)—that are able to cluster data by levels. Thus, if the future of living–learning research must be studied at the multi-program and, optimally, the multi-institution levels, researchers using this type of data should be prepared to use HLM for their analyses.

Yet, another recommendation for living–learning research that was advanced by Pascarella and Terenzini (1980) 30 years ago—but with the exception of the work of Pike (Pike, 1999, 2002; Pike et al., 1997) has not been heeded—is for subsequent studies of the “living–learning effect” to take into account not only direct relationships between LLP participation and student outcomes but *indirect* relationships as well. For example, researchers should be analyzing not only whether LLP participation is directly related to heightened critical thinking skills but also whether participation in an LLP is related to greater faculty interaction and peer discussion, which in turn are related to critical thinking. While HLM attends to data from multiple levels, the analytical method of choice for assessing direct and indirect effects is structural equation modeling (SEM).

Although they are comparatively rarely used, we believe SEM approaches to analyzing LLPs are superior to traditional techniques, regardless of whether

the research goal is focused on evaluating the correlational structures between constructs (e.g., regressions) or mean differences in latent constructs (e.g., *t*-tests or analysis of variance or covariance). Doing so allows the researcher to address several concerns noted above, including models only assessing direct effects, parameter invariance across groups, and the use of scores from measurement scales with uncertain validity or excessive measurement error. The latter vulnerability is overcome with SEM when assessing latent constructs using confirmatory factor analysis.

Moreover, multiple-group SEM allows the researcher to estimate his or her model separately for each group under study. Diagnostic statistics that indicate to the researcher whether data model fit is either improving or worsening allows him or her to determine which model parameters vary between groups, and which can be assumed to be invariant. As a result, increasingly accurate, nuanced portraits of the relationships among variables for each group can be generated. Thus, differences in student outcomes based on differences in types of LLP can be examined using this method.

Finally, for living–learning inquiry to move forward more confidently, researchers must address the issue of self-selection bias. As noted earlier, the lack of random assignment to LLP or traditional residence hall environments complicates researchers’ ability to measure the true effect of living–learning participation, because the very factors that push a student to participate in an LLP may also drive their attainment of the student learning outcomes researchers hope to measure. This is one of the most popular critiques of living–learning scholarship—that the living–learning “effect” is not due to any programmatic element but instead is attributable almost solely to the characteristics of the students who participate in them. Therefore, future LLP scholarship should consider the use of one of three methods currently being advanced in educational research to address the problem of selection bias: (a) regression-discontinuity designs, (b) propensity score matching, and (c) instrumental variable approaches. Detailed descriptions of these methods are beyond the scope of this chapter. However, a growing number of resources are available to the researcher interested in learning more, most notably Schneider, Carnoy, Kilpatrick, Schmidt, and Shavelson (2007).

Develop Living–Learning “Best Practices” Based on Empirical Evidence

The final recommendation for future research and practice is for scholarship in this genre to abandon the current “best practices” approach of designating a certain LLP as the exemplar, typically based on its reputation. Instead, empirical data gathered through techniques described above should be used to construct a standard from which to assess quality. Thus, a “best practice” is not just based on observation of only one program but an amalgamation of effective practices derived from data from numerous programs on numerous campuses. This empirically based model of effective practice can be disseminated through the living–learning clearinghouse, or could be the basis for a living–learning CAS. However, again, for the research to

be of greatest utility, it should be based on a multi-program and multi-institutional dataset, assess both direct and indirect effects of LLP participation, and should account for selection bias.

Conclusion

In this chapter, we sought to highlight extant scholarship on undergraduate living–learning programs through both the practitioner and empirical literature bases. We began by describing how living–learning programs are conceptualized in the current literature and then moved back in time to portray the evolution of and justification for LLPs over time. We then synthesized the practitioner-based (and hence not empirically based) “best” or “core” practices literature before turning to the empirical research on LLPs. Our summary of the empirical research included 25 peer-reviewed, quantitatively oriented works published between 1980 and 2010, which focused on the relationship between LLP participation and student outcomes. Following this review, we provided a critique of both the empirical and the conceptual literature on living–learning programs, and concluded with recommendations for future LLP research and practice.

While the previous section addressed how we believe the next generation of living–learning research should move forward, one might question *why* there should be additional inquiry into this type of programming. The answer to this question leads us back to our introduction: living–learning programs are interventions introduced to reform central features of American undergraduate education. Accordingly, what is at stake regarding these programs is a central foundation of higher education’s purpose. Yet, before and since the advent of the National Study of Living–Learning Programs, little is known about the effectiveness of these interventions, and what is known is inconsistent or of modest impact. When considering that, by only one estimate, there are over 600 living–learning programs in existence in the United States (Inkelas & Associates, 2007), campuses’ investment in these programs is not waning. Thus, for as long as living–learning programs are seen as mechanisms for improving undergraduate student learning, their inherent value should continue to be assessed, and assessed in increasingly effective ways.

Disclaimer

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Chapter 2

Qualitative Research and Public Policy: The Challenges of Relevance and Trustworthiness

William G. Tierney and Randall F. Clemens

Over the last generation, education scholars have seen a great deal of ferment in methodological circles about the strength of one or another method. Although disagreements often occur within a particular framework, the largest point of contention has been between those who identify as quantitative researchers and those who are qualitative. Oftentimes the arguments have resulted in an ideological stand-off where one group has claimed supremacy over another, or researchers have pointed out the strengths of their approach and of consequence, the terminal weakness of the other (Altheide & Johnson, 1994; Rolfe, 2004; Sandelowski, 1986). These arguments have fluctuated in intensity for many years, but of late, scholars have entered into an odd Cold War of sorts.

The disagreements frequently revolved around ontological and epistemological issues. Both sides, qualitative and quantitative, have for the most part moved on with their methodological lives and taken very different routes. Although neither group ultimately could claim victory, each succeeded in gaining adherents to their cause. The supporters of a particular approach, however, have adopted different personas and had varying degrees of influence on differing audiences, such as funders, policymakers, and methodologists.

The federal government's focus on science-based research and standard-based accountability has been at the core of methodological debates and policy decisions (Feuer, Towne, & Shavelson, 2002). The quest for clear principles to guide educational research has permeated nearly every aspect of research, including the discourse of politicians, the criteria for funding, and even classes offered and topics discussed in researcher and practitioner preparation programs. The advocates of both methodologies have publicly and privately engaged in debates at professional conferences and in academic journals (see Feuer, 2006; Moss et al., 2009; St. Pierre, 2006). Among the criticisms voiced by qualitative methodologists is the lack of

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representation of beliefs from an array of paradigms. For instance, the National Research Council (Towne, Shavelson, & Feuer, 2002) presents a series of scientific, positivist-inspired principles, including the ability of research to “replicate and generalize across settings” (p. 4). The principles are certainly well intentioned; however, the authors prefaced the report with the statement that all scientific research is based on their six guiding principles, and as a result, some qualitative researchers felt slighted when their beliefs were not recognized (Lather, 2004). The repeated amendment of standards by the American Educational Research Association (2006, 2008, 2009) reveals the tension among researchers to develop a more inclusive set of standards.

Quantitative researchers now largely are able to lay claim to the policy and practice arena and make use of hundreds of millions of dollars in governmental and foundation funding. The majority of federal funding with regard to educational research, for example, has a quantitative focus. The structural changes and additions that occurred in the federal government have mainly supported quantitative research. The Institute of Education Science (IES) allows that some qualitative studies might be supported as supplementary research, but what they really desire is quantitative studies, in general, and, in particular, approaches that utilize controlled experiments and random assignment. On the IES website, for instance, they describe their own research: “We collect and analyze statistics on the condition of education, conduct long-term longitudinal studies and surveys, support international assessments, and carry out the National Assessment of Educational Progress, also known as the Nation’s Report Card” (US Department of Education, 2010). The entire page displays no mention of qualitative research or words that might be associated with qualitative research. Even the name change from Office of Educational Research and Improvement (OERI) to Institute of Education Science was meant to signal a more rigorous and scientific approach to the study of education (“Education Sciences,” 2002). The creation of the What Works Clearinghouse suggests that through an amalgamation of rigorous research, practitioners would be able to make better informed decisions and create policies and practices that would improve educational reform. The assumption of many policymakers and quantitative researchers has been that educational work should more closely follow the medical model of research and be able to produce valid findings that are generalizable (Feuer et al., 2002; Towne et al., 2002; Shavelson, Phillips, & Feuer, 2003; Slavin, 2002).

Insofar as qualitative researchers acknowledged that their work did not generalize or align with traditional definitions of validity, they did not find a place at the policy table in federal discussions of educational reform. The result is that qualitative researchers did not so much move into another pre-existing arena (such as policy) but instead created new environments for their studies. They sought to open up the discourse and create an intellectual space for their work. Journals such as the *International Journal of Qualitative Studies in Education* and *Qualitative Inquiry* and meetings such as the *Congress of Qualitative Inquiry* enabled qualitative scholars to work in emerging domains of qualitative research and receive standard academic rewards—publications, presentations, and with it, tenure and promotion. Indeed, the *Handbook of Qualitative Research* (Denzin &

Lincoln, 1994) has not only gone through several editions but also consistently been one of SAGE Publications' largest sellers. Qualitative researchers, who have created unique spaces for their work, have not attempted to argue using a quantitative perspective but rather have investigated issues such as auto-ethnography, queer theory, experimental writing, performance ethnography, decolonizing and indigenous methodologies, and a host of other creative, progressive methodologies (Altheide & Johnson, 2010). We do not wish to overdraw the distinction. To be sure, some journals have utilized qualitative work that struggles to better define or even resolve a particular problem. However, the majority of efforts have gone toward more emergent domains of inquiry that has less interest in specific problem or policy resolution, while quantitative researchers have moved aggressively into that area.

Occasionally both groups share the same geographic space such as in a school of education and at large conferences such as the American Educational Research Association (AERA); yet, even in these areas we have seen spaces carved out for both groups rather than an inter-relationship with one another. Some quantitative and qualitative researchers, in large part because of their frustration with AERA's perceived bias toward either one or the other approach, have started separate educational research conferences. Educational psychology departments and divisions largely rest with quantitative researchers; the largest Special Interest Group (SIG) in AERA is the qualitative SIG with over 800 members. Teacher education has those who do narrative and others who focus on outcomes research; their work rarely overlaps. Even those who claim to call upon mixed methodologies largely do quantitative studies; as graduate students they focus intensively on quantitative research methods and also learn how to conduct a few interviews and focus groups. Seldom does one see someone undertake a mixed methods study where a qualitative method is the primary design of choice.

Our purpose here is not to contest methodologies of either point of view or convince readers to adopt one stance rather than the other. First, we acknowledge that collapsing many different ideas into two groups is problematic and risks missing the nuances of varied beliefs within each methodology. For our purposes, however, we are writing as if qualitative and quantitative research resembles ideal types. Second, both groups have constructed logically consistent, compelling epistemological standpoints; to enter into yet another discourse that assumes we are likely to persuade individuals of either point of view that they have, in many cases, been intellectually mistaken for the last generation is a fool's errand. We are unlikely to convince those who have been advocates for their position, and we would not move the discussion further in any particularly new direction. We also do not envision that détente is likely any day soon. As noted, both groups have their own conferences, journals, departments, and intellectually consistent viewpoints. There is much that can be said of a well-designed quantitative study, just as a well-crafted auto-ethnography can push the reader in a direction that he or she may not have previously considered.

We consider, instead, the role of qualitative research in policy studies. Such a concern has largely been pushed to the periphery by both groups. On the one

hand, quantitative analysts have discounted the role of qualitative research in terms of providing data that might be generalizable across settings. On the other hand, qualitative researchers have been largely unconcerned with issues of policy reform, or when they have, such work has focused on critiquing processes or outcomes rather than suggesting alternatives or recommendations about various issues. We do not quarrel with either stance. Given the epistemological position of quantitative researchers, we understand their concern with validity and generalization. Similarly, the turn to a critique of research and the development of alternative voices that qualitative researchers have created has been of enormous benefit.

We are nevertheless troubled when critical educational issues are left only to quantitative research. However many strengths an approach to a problem may have, our assumption is that many of today's most pressing policy issues are extraordinarily complex and will benefit from carefully conceived and analyzed studies utilizing multiple methodological approaches. Thus, we view the preponderance of IES-funded quantitative studies as shortsighted; in similar fashion that qualitative researchers have largely vacated the policy field is also problematic. Christensen, Johnson, and Horn (2008) have usefully pointed out:

Just as researchers in medicine are working to understand disorders by their causes as opposed to their symptoms in order to move toward precision medicine, education research must move toward understanding what works from the perspective of individual students in different circumstances as opposed to what works best on average for groups of students or groups of schools (p. 162).

Such an observation necessitates thoughtful qualitative research that will be useful for informed policy making.

What might be done to stem the tide of dropouts from high school? How might we improve access to college for low-income youth? Why are transfer rates from community colleges to 4-year institutions generally abysmal? What barriers exist to increasing the percentage of women in the sciences and engineering? How do health care and retirement policies impact the working environment at colleges and universities? Answers to such questions are of critical import for the health and well-being not merely of educational organizations but also of society. Quantitative research is necessary but insufficient to answer these compelling and complex questions. The more full-bodied and nuanced an analysis that can be provided the better.

Accordingly, in the following sections, we offer an overview of the two stances and identify the criteria each has developed to ensure that their findings are usable. The purpose of the summary is to outline the landscapes of both methodologies; to undertake qualitative research in the policy arena, one needs to understand the frameworks of others in order to take into consideration how one's own work will be reviewed and critiqued. We then elaborate on pressing public policy issues and consider how qualitative research might be useful. We next turn to a consideration of what criteria might be employed to ensure the trustworthiness of data for those of us who intend to undertake policy-focused qualitative research. We conclude with a discussion of the challenges that exist and conceivable next steps toward such work.

Validity in Quantitative Research

Validity is both a simple term commonly used by men and women every day, and a complex statement that has been debated throughout history by scholars and philosophers. To state that a proposition is valid is to imply that it is logically correct, sound, and understandable. If we undertake a study and claim that we are confident in the validity of our findings, we are stating confidence in our knowledge claims.

When someone says “You have a valid argument,” they are harkening back to school day syllogisms: “All men are mortal; Socrates is a man. Therefore, Socrates is mortal.” Such an argument has a logic to it that is based on the truth of the premises that lead to the conclusion. The problem, of course, is if one or both statements are false or misinterpreted, then the argument is not valid: “All men are white. Barack Obama is a man. Therefore, Barack Obama is white.” False premises lead to a false conclusion. Similarly, the listener may interpret a word or a phrase in different fashion from the speaker: “All men are flawed. Socrates and Barack Obama are men. Socrates and Barack Obama are flawed.” The speaker may have intended the comment to mean that all men are mortal and not gods. The listener may have heard the comments as a statement about character flaws. Our understanding of the meaning of words and our interpretation of the ideas in the sentences lead to confusion.

In terms of research, scholars are asking if the study accurately reflects what they are attempting to investigate, which involves issues of external and internal validity. The challenge of quantitative research in part has been to create valid findings that are then generalizable to other situations. By making this statement the assumption is that such an undertaking not only can be attempted but also can be achieved. Its achievement, however, depends in large part upon the strength and elegance of a research design. Researcher bias, unintended effects, temporal matters, and a host of other issues need to be confronted before anyone may claim to have a valid finding.

Internal validity pertains primarily to the rigor of the study and if alternative explanations have been taken into account and discarded with good reason (Campbell, 1957; Campbell & Stanley, 1963). A causal connection between the independent and dependent variable is assumed. Cook and Campbell (1979) defined internal validity as “the approximate validity [the best available approximation of the truth or falsity of a statement] with which we infer that a relationship between two variables is causal or that the absence of a relationship implies the absence of a cause” (p. 37). In other words, researchers seek to understand if the connection between two variables is related in a way that can be proven to such an extent that they can state with certainty that a relationship exists.

External validity largely refers to the extent that the study’s findings are generalizable (Campbell, 1957; Campbell & Stanley, 1963). Can the causal relationship that has been found in one study, or set of studies, be generalized across different types of persons, settings, and times? If it is true that all men are mortal, then regardless of location, time, or individual, every man whom we study is mortal. However, if we conduct a study of diabetes, we are likely to find different conditions for different men. Race, class, geography, and time matter. African-American men,

for example, may be susceptible to diabetes in ways that differ from white men. African-American men who are poor may have different threats to diabetes than those African-American men who are wealthy.

The import and assumptions of validity are critical. If the goal of research is to develop findings that offer certainty to the questions under investigation and can be generalized, then particular designs and methods make sense. In other words, if the findings are backed by causal evidence and they accurately represent what has been investigated, then we need to undertake large-scale studies that can enable the research study to be valid. At the most intimate level, for example, a life history of one individual is hardly able to claim any possibility of generalization. Similarly, a series of interviews of assistant professors or early career high-school teachers are unlikely to be convincing insofar as the individuals, their experiences, and their statements about work will vary. The researcher also needs to account for his or her own bias. Optimally, the experiment needs to be designed to the extent that subsequent researchers can perform the same experiment and reach the same results, which leads to a consideration of reliability.

For a project to be valid we also want it to be reliable. Reliability, like validity, has a commonsensical understanding as well as a much more theoretical one. “He’s reliable” suggests that the person is dependable, consistent, and in a sense, predictable. If we ask an individual to pick us up at noon and we assume she will, then we are basing our judgment most likely on past practice. The assumption over time is that she will continue to pick us up at noon, day after day. We often make casual assumptions based on past practice: “Graduate students are always nervous about their qualifying exams. You can rely on it.” Such a statement presumably derives from the speaker’s past involvement with graduate students and makes a prediction that the current graduate student will be nervous when his qualifying exams approach.

The same sort of relationship exists with research. Reliability in this sense is a precondition for validity. Repeated tests that lend the same results create the conditions for reliability. If something is unreliable, then it cannot be valid. The ability for something to be reliable also extends to different researchers conducting the same tests; if only one researcher can produce the conditions for reliability, then they are not replicable. Validity concerns whether what we have chosen to study is an appropriate measure of the study, whereas reliability is looking at if those measures produce the same results over time and researchers. Whereas not all reliable accounts are valid, the assumption, in principle, is that all valid accounts will be reliable.

Validity and Trustworthiness in Qualitative Research

The manner in which we have framed validity in the previous section has long been of concern to qualitative researchers (Altheide & Johnson, 1994; Cho & Trent, 2006; Creswell & Miller, 2000; Eisenhart & Howe, 1992; Lincoln, 2001). From

a quantitative perspective, using their criteria, even carefully designed qualitative research cannot be valid. Although many quantitative researchers have respect for the findings of qualitative work, that respect has little to do with the validity of such research. That is, a historical study may provide great interpretive insight into a particular period or person, but a historian makes no claim to the validity of the research. Similarly, a case study of one site may lend itself to understanding an issue or an organization, but surely no attempt can be made to generalize the findings of such a study.

Many qualitative researchers have focused primarily on philosophical, epistemological, and ideological concerns (see Hammersley, 2009a; 2009b; Smith & Hodkinson, 2009). One problem pertains to the idea of realism. The majority of qualitative researchers reject the assumption that an individual or individuals can attain a direct, unmediated knowledge of the world (Angen, 2000; Garratt & Hodkinson, 1998; Kvale, 1996). From this perspective, humans are always interpretive beings and the world simply does not “exist” irrespective of individuals. An observer-independent account of experience, from a qualitative perspective, is impossible. And if validity is dependent upon that, then validity, too, is impossible.

How is it possible, qualitative researchers ask, to assume that truth is a pre-existing condition that individuals and researchers simply discover, as if it is waiting “out there” like buried treasure? Rather, individuals—participants and researchers—co-create the world (Guba & Lincoln, 1994) and that world is bound by the language we use and how we understand it. Those who study an organization’s culture or a tribal culture, for example, do not discover that culture as if it was simply in existence and a researcher stumbled upon it. The researcher’s meanings in part create the culture, and its meaning is amorphous, always changing. There can be no ahistorical frameworks that researchers employ to judge the validity of a situation because our understanding of the world is not objective. Some individuals will take this critique further and identify the modernist and Enlightenment ideals to which terms such as validity fit as the intellectual straitjacket that has led to the oppression of women and gays and the colonization of oppressed peoples. Lather (1986, 1993), for instance, has sought to unsettle the concept of validity by invoking multiple meanings; as a result, contradictory claims annul the notion of science and allow for new discoveries and understandings. Such a stance contrasts starkly with Hammersley (2006), who resolutely states that “it is misleading to believe that there can be different types of validity. Validity is singular not multiple; it concerns whether the findings or conclusions of a study are true” (p. 44).

It is important to note that not all qualitative researchers completely reject realism. Several scholars suggest that no absolute, objective truth exists, but also believe scientists, through repeated, systematic tests, can approximate truth (Hammersley, 1992, 2009a; Phillips, 1987). Others adopt a pragmatic approach and, depending on the project’s requirements, borrow aspects from numerous paradigms (see Cho & Trent, 2006; Miles & Huberman, 1994; Onwuegbuzie & Johnson, 2006; Seale, 1999). Miles and Huberman (1984), for example, respect the myriad epistemological underpinnings of researchers and in order to nurture understanding among

researchers recommend the documentation and presentation of the research analysis process. Certainly, numerous beliefs about validity exist.

Reliability is a different matter. Many qualitative researchers maintain that with careful research, individuals are able to provide an accurate description of an object under study; observations, for example, of a particular event may well have been seen repeatedly over a long period of time. Assume that an observer spent a year watching teacher behavior in a classroom and counted the number of times the teacher called on girls and called on boys and determined that boys were asked questions more than were girls. Such an observation, with additional data, may be deemed reliable by some qualitative researchers. However, no qualitative researcher would make the claim that different researchers will observe, collect, analyze, and interpret data in precisely the same manner. Thus, if validity is rejected on theoretical grounds, reliability is rejected as impossible based on the manner in which qualitative work is conducted, a context-bound process that includes unique interactions between the researcher and the researched.

The point is less that an accurate account is of an independently existing reality irrespective of a particular researcher and more that the account can be deemed plausible by readers based on the descriptions developed by the writer. We will expand on this point in detail in a later section. Such an assumption, however, still rejects the traditional notions of external validity. The interpretation that a researcher develops is dependent upon a finite number of interviews, observations, or cases. Understanding is relative, rather than universal. A more radical interpretation will hold that understanding cannot even exist across interviews or sites—that meaning is entirely a mediated social construction and an individual's understanding of another's statement is always partial and unclear.

Simply because qualitative researchers have varying concerns about validity (and reliability), however, does not mean that criteria for goodness in undertaking studies have been irrelevant. A great deal of work has been done that has tried to think through what constitutes a good qualitative study (e.g., Altheide & Johnson, 2010; Hammersley, 1992; Lincoln, 2001; Rolfe, 2004; Seale, 1999; Smith, 1993). Trustworthiness has become a qualitative way to speak about the rigor of one's research (Guba, 1981; Lincoln, 1995; Lincoln & Guba, 1985). If one does not employ traditional quantitative measures for determining quality, then how might one employ the idea of trustworthiness to determine the worth of a qualitative study? We will elaborate on these issues below, but in large part they turn on four criteria: *credibility*, *transferability*, *dependability*, and *confirmability* (Guba, 1981; Lincoln & Guba, 1985).

Although researchers acknowledge that the quantitative definition of internal validity is impossible, they have developed ideas pertaining to *credibility* (Guba, 1981; Lincoln & Guba, 1985). The question that concerns this criterion is if the researcher has presented data in a manner that is credible to the respondents. A simple example of credibility is if a researcher studying teacher-student behavior claims that a classroom where an observation occurred was crowded, whereas the teacher believed it was not. The researcher's obligation is not only to take into account the

respondent's interpretation but also to provide the reader with enough description to determine whether the room is crowded.

Transferability is the qualitative analog to the quantitative conception of external validity (Guba, 1981; Lincoln & Guba, 1985). Again, the point is not that the research project can be generalized to all similar studies but that some sort of information can be gleaned that will be helpful to subsequent researchers of similar studies. Importantly, transferability occurs as a result of detailed, illustrative description, and the responsibility shifts from the researcher (the sender) to individuals in other settings (the receivers) (Lincoln & Guba, 1985). The reader of the report determines the level of applicability of the research. Such a perspective is opposite to external validity in which the researcher generalizes to other populations. Reliability, although rejected by qualitative researchers as unattainable, has its own criterion for trustworthiness—*dependability*. The concern here is the logic of the process of inquiry—the research design and methods employed. What kinds of data have been collected and over what period of time? Was the research collected over a determined period of time, or was it simply a rushed study where one visit and a few interviews occurred (Ray, 1980)? Finally, *confirmability* asks that the research findings be clearly linked to analysis, data, and the research site. The goal is to enable the reader to see the train of thought of the researcher to determine how he took a piece of data, analyzed it, and then reached a plausible conclusion.

We will discuss trustworthiness in greater detail in a subsequent section, but it is useful to note that these criteria have been criticized (Garratt & Hodkinson, 1998; Mishler, 1990; Rolfe, 2004; Sandelowski, 1993). Quantitative researchers have continued to refine definitions of validity rather than ways to substitute another framework for it. While qualitative researchers have worked to refine the criteria, develop ways to judge it, and also focus more intensively on the idea of rigor, quantitative researchers simply dismissed the ideas. Recall that qualitative critique of quantitatively defined validity is not that it is inappropriate for qualitative research but that it is inappropriate for research as it has been defined. If one begins an argument with a different set of epistemological positions, then there will be little room for agreement on the propositions one develops regardless of how carefully they are constructed. Simply stated, if reality is socially constructed, then issues of validity are difficult, if not impossible. If a pre-existing reality exists prior to a researcher entering a situation, then the potential exists for us to create the conditions for validity. The result has been that quantitative methodologists have spent a great deal of time expanding their repertoire of analyses to make the achievement of validity on a broad range of issues much more possible. Even though many scholars are utilizing new methods that have brought about useful results, the conclusion has been that a researcher's use of trustworthiness may be appropriate for qualitative work but irrelevant for quantitative studies. Further, quantitative scholars argue qualitative work has little utility for the kind of policy-oriented, problem-solving research undertaken by the quantitative community.

Qualitative researchers had a different concern with trustworthiness criteria. The most severe critics saw the idea of trustworthiness as simply a qualitative attempt to adopt quantitative criteria for rigorous research. Those who subscribe to notions of

postmodernism and the like reject the idea that knowledge can entirely be agreed upon or that consensus can be reached about ideas. Criteria such as credibility and dependability may be of use to the researcher; however, the idea that one set of criteria could accurately and consistently result in a final truth is mistaken. Understanding cannot be achieved and to try to do so is a fool's errand at best, and at worst, deceptive. Guba and Lincoln (1989) subsequently developed a different set of criteria based on the idea of authenticity and praxis. They used a different approach compared to trustworthiness criteria. Rather than parallel criteria, which focus on translating quantitative terms to support qualitative research, they founded the criteria on qualitative-specific concerns, such as ontology, epistemology, and axiology. The framework asks how a research project has created action and empowered those who were involved in the study. The respondents' viewpoints become essential and self-understanding is an end in itself. The researcher's role is less that of the disengaged scientist and more that of a community activist trying to foment change. Of consequence, the quantitative community has had little good to say about such a framework in relation to validity. Those qualitative researchers who worked from a critical perspective, in contrast, found much to applaud in the work, albeit acknowledging the criteria had little to do with validity (Morrow, 2005). Postmodern qualitative researchers in general had little interest in analyzing or refining such criteria and instead focused on generating alternative forms of narrative.

The Public Policy Need for Qualitative Research

As a consequence of the movements mentioned above, the qualitative voice in public policy discussions surrounding education has been relatively muted. Those in control of federal, state, and foundation monies have tended to prefer quantitative studies that subscribe to traditional notions of validity; those who conduct and teach qualitative research have largely adopted new purposes and focused more on the critique of traditional notions of research and the development of alternative representational voices. We have a dual concern with this development. First, the role of qualitative research is diminished and researchers end up thinking in a unitary manner about pressing public issues. The point is less that looking at a problem in a particular manner is necessarily mistaken, but that framing an issue from a singular perspective runs the risk of overlooking alternative explanations for why the problem exists or how to think about studying the issue.

Second, public policy is less well informed by the lack of qualitative work. Many of the most pressing issues in education, for example, deal with problems related to children, adolescents, and young adults. Questions pertaining to the efficacy of online learning, effective working conditions for teachers or faculty, and what might be useful ways to deal with students in need of remedial writing and math when they graduate from high school have multiple angles from which they can be studied. To narrow the focus to one particular paradigm runs the risk of reducing complex environments when actually what we need is a fuller understanding of their intricacies. The result is that the voices of those under study are hushed, if not lost. Oftentimes a

compelling argument can be made by the urgency of portrayals that qualitative work can provide. The meaning of research can be heightened by the contextual data that qualitative research can lend.

In subsequent sections, we will argue that qualitative work provides a voice and a face to those individuals whom researchers study; of note, qualitative research has the potential to provide a social urgency to issues that are always voluntary: no one must enact educational reforms. Our focus here is not on issues of implementation, but we are mindful that any research undertaking not only involves identifying a problem, designing a study, analyzing data, and reaching conclusions but also needs to help decision makers reach some sort of conclusion about what actions should be taken. The emphasis on translational research (Bulterman-Bos, 2008; Henig, 2008; Stokes, 1997) over the last decade underscores the rising importance on being able to produce texts that translate academic scholarship into texts that are readable and usable by policymakers and the general public. Qualitative research can help provide understanding on issues in ways that quantitative research cannot, just as quantitative research is able to resolve issues that qualitative research cannot. Accordingly, we first summarize five areas where qualitative work will not be useful, and then raise five areas where the work of a qualitative researcher will be useful.

Qualitative Research Cannot

Be generalized. Although we have suggested that qualitative researchers often take a more philosophical stance with regard to questions about the nature of research whereas quantitative researchers are often more pragmatic, one cannot escape basic notions of research if we are to understand one another's assumptions and epistemological framework. Just as the concept of validity has a simple meaning as well as deeper theoretical notions, so too does generalization. "All faculty are pessimistic" may be a common perception, but it may not have the research strength to claim external validity. One might infer that someone has used inductive logic to reach his or her conclusion and that the conclusion has been reached after numerous interactions with multiple professors over a significant period of time. However, if someone said "Professor Jones is pessimistic, therefore all professors are pessimistic," we would likely assume that the statement is false or based on inadequate data.

The same point could be made between quantitative and qualitative research. Studies that have a small sample size are not generalizable. We concur with such an opinion when the discussion pertains to public policy research. We have been troubled when a qualitative study has a very small sample size and then proceeds to make recommendations. This is the sort of conjecture that has enabled some researchers to reject qualitative research in large part because the study is making a claim that cannot be supported. The focus on only a few subjects or cases, however, makes it possible to investigate in detail the relationship of a variety of variables to one another. Thus, generalization is certainly one possible end in research, but it ought not to be the only end, and it cannot be an end in qualitative work. An alternative possibility might be that the contextuality of knowledge is useful.

We appreciate that some critics (Gomm, Hammersley, & Foster, 2000; Kvale, 1994; Ruddin, 2006) suggest that generalizable knowledge is possible from a single case, or a handful of cases. But they are thinking less in terms of public policy research and more about theoretical advances that might be made. A useful case study can add to our theoretical knowledge, and it is possible that one may attempt, as Ruddin (2006) suggests, “hypothetico-deductive theorizing” (p. 800) as opposed to generalizations based on empirical data and statistical inference. However, policy research generally is after large-scale answers to specific questions: What is, for example, the optimal classroom size for teaching a class? In some instances, we have become less rigorous with what we are researching in our studies which has led to inappropriate inferential generalizations rather than fine-grained findings based on in-depth research. We are in agreement, then, with Gomm et al. (2000), who state that general relevance can be gained from case studies and the like but that such researchers “often are not very clear about the basis on which are claiming general relevance of their findings” (p. 111) and, of consequence, cannot generalize.

Although we sympathize with Janet Schofield’s (2000) concern about the importance of generalization, we remain unconvinced that it is possible “to achieve greater generalizability of qualitative research to situations of interest” (p. 88). If one holds to traditional interpretations of generalizability, then adding cases, or doing them more thoroughly, will not enable the researcher to achieve external validity. Schofield, it seems to us, is trying to extend qualitative research’s reach beyond its grasp. Suggestions such as conducting multi-site studies or carefully choosing the cases for one’s sample, or thinking about trends in the subject under study, impact research design and data collection and analysis, but they do little to enhance the ability of the researcher to achieve generalizations with his or her research. Similarly, reconceptualizing generalization, such as Donmoyer (2000) and others have suggested, is a useful thought experiment but it does not enable qualitative researchers to function particularly well in the policy arena. The point for us is less that generalization is a mistaken concept, although we understand the epistemological concerns, and more with how we might enable qualitative research to be undertaken that is useful, but not tethered to a concept that is unachievable.

Be objective. The assumption of the quantitative paradigm is that the researcher conducting the experiment will be entirely objective. In one sense, human judgment has been removed from the undertaking and the researcher is assured of accurately representing the test conditions such that reality gets represented without interference from the researcher. The point, of course, is not that humans are replaced by automatons, or that multiple decisions are made in the design and analysis of the undertaking. However, when one undertakes an experiment and analyzes data, the interpretation and the conclusion are definite.

The ability to be objective presumes that independence exists between the subject (researcher) and the object (the experiment) (Burawoy, 1998). Objectivity implies that the subject has accurately represented objective reality. Personal knowledge is irrelevant, or even harmful, in the quest for objectivity. Ultimately, two ideas drive

objectivity. The first is that reality is distinct from the individual. Reality as a social construction is rejected. The second is that without objectivity a study is open to charges of researcher bias, and bias is wrong.

Given the strictures of such a framework, pure objectivity is impossible for a qualitative researcher. Many feminist and postmodern researchers will reject even the notion of researcher independence (Garratt & Hodkinson, 1998; Lather, 1993). But any qualitative researcher will acknowledge that perfect objectivity—even if it were to exist—is impossible in qualitative research. The researcher's hand is always in the design of a study—from the inception to the writing and publication. One researcher may develop different questions and therefore have different responses from a research subject. Two individuals may interpret a transcript differently because of different perceptions. Even the meaning of words and phrases is open to multiple interpretations because researchers cannot entirely understand every single word or inflection of a respondent. Individuals also have different writing styles and how they present the data will undoubtedly vary. Some individuals, for example, will use the passive voice, whereas others will utilize the active voice. Even so inconsequential, a matter as narrative voice could play a role in how the text gets read and interpreted; quantitative researchers, in comparison, have far fewer authorial concerns. Qualitative researchers cannot dismiss these challenges based on their epistemological assumptions.

At the same time, the more egregious examples of bias in qualitative research in public policy can be eschewed. A researcher can control for bias in numerous ways that we will discuss below. Questions can be asked in a way that is open-ended rather than in a manner that solicits a desired response. Researchers have developed ways to check for bias in interpretation of transcripts and the like, but ultimately, objectivity is another concept that qualitative researchers are unable to achieve no matter how many procedures get developed.

Be structured akin to experimental conditions. Similarly, very few qualitative researchers think of their work as an experiment, or that the undertaking even mimics experimental conditions. Humans act differently from moment to moment; the observation of teacher behavior or interviews of early career faculty may be impacted by the events of the day, but an assumption of qualitative research is that such impacts are useful data. The result is that any attempt at creating pristine experimental conditions violates the basic assumptions of qualitative work. Good public policy, however, calls for order and regimentation so that the conditions for objectivity and internal validity will be met.

The result is that those who subscribe to the quantitative paradigm often disdain what they see as disorder in qualitative research designs. Or rather, the problem is less that the work is disorganized, but that it holds little perceived utility for solving complex policy issues. One response might be that qualitative work's goal begins with the assumption that one's methods necessarily involve less organization and a greater attempt at understanding an environment or people holistically. While one may understand that attempt, the fact remains that the work will not be experimental and fails to meet typical scientific standards that have been established as good practice.

Be replicated. If experimental conditions cannot be created, then that which is being studied cannot be replicated. Again, replicability is a fundamental concept of experimental science. How can one make a statement about causality if the object of investigation has not been replicated? Simply because one group at one point in time acted in a particular manner or responded to a particular intervention does not provide any certainty that the next time such an act is attempted that it will be successful or meet with the same response. Replication is essential for scientific work. Medicine is based in part on its ability to conduct tasks that have been verified because of replicable experiments. The counter-argument that oftentimes future findings refute previous ones is certainly true. But there is also enough evidence that as a society we base laws and our ability to act in part on replicability. If someone has a certain blood-alcohol level, then he or she should not drive. When a patient has surgery, the instruments should be sterilized. If a person is choking, the Heimlich maneuver should be attempted. Of course there are exceptions to the rule, but we know of few individuals who would disagree with these three examples.

Qualitative researchers cannot generate similar rules because they do not have the conditions for experiments and cannot replicate what they have found time and again. The result is that qualitative research lacks yet another key concept that affords science its utility and worth for public policy. Although conditions may be structured in a manner such that the researchers see similar activities, they will not be precise in a manner akin to what exists in the laboratory. That is, two researchers at different points in time may have identical protocols and may try to study similar students in similar classrooms in order to determine if there is a gender bias in science. A person's experiences differ, and the variability of temporal conditions may differ such that to claim that these tests are replicable would be a mistake. While temporal conditions also change in the laboratory, the ability to control for change is much greater and possible than it is with qualitative research.

Be voiceless. Finally, quantitative researchers have a history of employing the passive voice in their narratives as a technique to demonstrate distance from the text: "The findings were analyzed . . ." The tone that an author wants to convey is consistent with the imperative to erase the imprint of a personality. Obviously, an author's name is on a text, but if the research is objective, reliable, generalizable, and experimental, then the author's specific role in the research has been at arm's length of the findings. Of course, the individual developed the design, analyzed the data, and wrote the text, but the complete focus needs to be on the data, not the author.

Qualitative research is almost never voiceless. Authors not only disdain the passive voice but often write in the first person singular: "I interviewed . . ." The assumption of the qualitative author is that he or she obviously played a role in the creation of the data and development of the text, so the text should accurately reflect that role by inserting the author more actively in the narrative. A skeptic may argue that the author weakens the significance of the research by unnecessarily shifting focus from the data to the researcher; we argue, instead, that voice can strengthen the presentation of qualitative research and add useful, vivid dimensions

that allow for a better understanding of the research design and data collection and analysis, which are essential to policy decisions. In qualitative research, voice matters. Authors of quantitative texts consciously try not to use adjectives or make the data presentation and analysis read like a novel; qualitative authors struggle to create portraits that are interesting and frequently read like fiction. Style, tempo, pace, tone, and texture are all concepts that qualitative researchers think about as they develop their texts. Because they think of such ideas, they yet again fail to live up to scientific notions of good research.

The concepts we have outlined are inter-related and all fall under the earlier observations we had made about quantitative research. Taken together they form a schema for the conduct of research, and conceivably as an indictment of qualitative work. If qualitative research cannot accomplish these tasks, then what is the worth of qualitative work? We do not wish to state the question too strongly for certainly no one disdains the anthropological and sociological traditions that have promulgated qualitative work for over a century. However, many might ask if research cannot achieve these various tasks, then certainly their utility for policy-oriented research is limited, if at all. We disagree. In the next section, we outline what qualitative research can do and then turn to how such concepts might be verified.

Qualitative Research Can

Provide context. One of the strengths of qualitative research is that well-crafted studies can provide meaning to otherwise ambiguous observations and statements. Statements, for example, that students find homework “boring” may well be true, but the understanding of such a statement depends on the sort of students who are being discussed, and more importantly, how students define homework and boredom. Similarly, although there has been a great deal of research about leadership, its meaning and implications have defied researchers since Thomas Carlyle (1897) first wrote his treatise on “great men.” Suggestions, for example, that good managers “walk around” have appeared as a recipe that neophytes have followed and then subsequently have failed as leaders. What went wrong, they ask? They walked around and did other actions that manuals have prescribed only to find that the recommendations were for naught. Qualitative researchers have the potential of providing specific contexts so that a more nuanced understanding might be developed to abstract terms.

What is the utility, one might ask, of a contextual understanding of one site, however well developed and carefully drawn? Why would public policy experts want a portrait of one or a handful of cases and how would they be used? Such questions assume that the kind of knowledge an individual needs to make a policy decision is large-scale databases that outline trends and composite findings. Policy analysts need to know, for example, if advanced placement classes enable students to pass the AP exam and gain college credit. But they also need to know why students do not pass the exam, and that sort of information can be gleaned by way of

interviews, observations, and focus groups. In other words, what occurs between the formulation and evaluation of a policy, between the decision to add AP classes to a master schedule and the performance of the students, is oftentimes complex and nuanced. In such cases, multiple perspectives, i.e., a mix of quantitative and qualitative methodologies, to present social phenomena are not only useful but also essential.

Qualitative research's history in anthropology has allowed individuals who have no understanding of cultures different from their own an understanding of the lives and practices of different peoples (Malinowski, 1922; Mead, 1928). Those readers, consumers, and decision makers of educational articles may only know about a particular practice or group indirectly or through their own experiences. Well-crafted qualitative studies of homeless youth, for example, enable individuals who have no direct experience of the daily lives of such individuals what they experience and how they make sense of these experiences (Tierney & Hallett, 2009). The point is not only that such portraits have the potential of creating a moral urgency to such issues but also that they lend understanding in ways that quantitative research cannot do, or not do as well.

Provide understanding. The assumptions any researcher makes are critical to one's understanding of the findings that he or she puts forward. Obviously biased survey questions—"Do you support the federal deficit spiraling out of control?"—are as inappropriate as similarly framed interview questions: "Why do you think the Democrats can't control spending?" If readers see the questions, then they may have a better understanding of the answers and make use of them or not. With qualitative research, however, the potential exists to frame a text in a manner that ensures that the readers understand not merely how the research design has been framed but also the epistemological understandings of the researchers.

Why should policy analysts care about admitted abstractions such as epistemology? We were critical earlier of qualitative research that obsesses over the standpoint of the author and we certainly do not suggest that sort of navel gazing in policy-related work. However, the data that get developed in qualitative research in part depend upon the background of the researcher. If readers are to have faith in the findings of the researcher, then they need more background in qualitative research than what is provided by quantitative researchers. The ability of the author to lend judicious insight into his or her background is not merely useful, then, but also a way to develop credibility for the research. Such a fundamental observation has often gotten obscured by the assumption that the researcher is simply interested in self-promotion. When a crisis erupts in another country or the legislature debates a particular issue, the media frequently turns to experts. Listeners will have more faith in the comments of someone who has spent years in Afghanistan and speaks Pashtu, as opposed to someone who spent a weekend there and speaks only English. The point is not that listeners and readers must believe the expert, but background about the individual enables the reader a better understanding about how to interpret the data.

The same assertion can be made with regard to qualitative research. The background of the researcher and his or her familiarity with the material is essential in

permitting the reader to make sense of the text. Ultimately, the reader-cum-decision maker is the one who makes a determination about what to do or what not to do. With qualitative research the ability of providing that individual with information about how one thinks about the particular question strengthens the ability of the individual to come to a better informed decision. The possibility exists, for example, that the decision maker may not have thought about the problem in a manner akin to the qualitative researcher—or may disagree with the assumptions of the researcher. Regardless, policy analysts need thoughtful interpretations of the problems that confront them and qualitative work helps frame questions in ways that will be different from those of their quantitative colleagues.

Provide depth. As we noted, quantitative research relies on the ability to have conditions that are controlled and sterile. The use of the word “contamination” is purposeful; one does not want the data to be contaminated by effects that have not been considered. The strength of qualitative research is in its capacity to allow the reader to understand the situation not so that the next study will be precisely like the last but to think about how the particular study might inform future ones or different situations.

Educational organizations are in a constant state of flux; students arrive with different expectations; not only different faculty teach and work in a manner that differs from one another but also the same individuals have different ways of looking at their work from year to year. The capability of qualitative researchers to document what they have done enables a reader to learn and reflect on his or her own situations, even if the case study is an *n* of one or the interviews only amount to 50 or 60. To be sure, the design has to be elegant, thoughtful, and thorough, but the assumption that policy analysts have little to learn from a well-designed case study belies the fact that individuals learn from difference. When researchers combine contextual information with a framework that demonstrates the assumptions of the researcher and the manner in which the project was carried out, the reader will be provided with enough information to see whether the findings are useful in helping him or her reach a decision about how to proceed and what kinds of decisions need to be reached. Depth provides richness to contexts so that readers do not merely read about different contexts but are able to understand how those contexts differ from one another.

In daily life, if individuals only called upon survey data to reach decisions, nothing would ever get done. Qualitative research cannot be whimsical, such that decisions are reached on extraneous data, but to assume that a series of interviews or observations or case studies will not heighten policymakers’ understanding of the problem at hand is to overlook the importance of reflection for decision making. Qualitative research, then, affords individuals the opportunity to utilize data that most likely are unavailable from quantitative work regardless of how elegant or thoughtful the instruments that have been used.

Provide comparison. The sine qua non of qualitative research is its ability for reflection and comparison (Corbin & Strauss, 1990; Glaser & Strauss, 1967). Comparison may occur by the research itself when two or more case studies, life histories, or ethnographies are developed. Any number of useful case studies has

been developed, for example, about decision making in higher education or how public boards of trustees operate. The ability to hold the interview protocols constant and to have conducted them for a similar purpose at a similar point in time provides a useful comparative perspective for the reader that cautions against simplistic recommendations. The research is useful in enabling the reader to reflect not on causal relationships between and among variables but on the complexity that exists in educational organizations and how to think about those complexities.

Indeed, even with a single case study the potential for comparison exists. At the center of qualitative research, then, is an ideology of reflexivity. Well-crafted studies provide the reader an opportunity to reflect on his or own situations in regard to similarities and differences. An analysis of how students make use of technology may provoke a sense of how different teenagers are from the reader and help the individual to think of technology in a different manner. Or, the reader may have a similar interpretation of technology but reach a different conclusion from the author.

We pointed out earlier that both research perspectives have different worldviews and we have maintained that both are useful. Well-designed, large-scale generalizable studies that depend upon causality can aid policy analysts in thinking about specific ways to improve learning or enhance educational environments. Similarly, however, qualitative research has the potential to enable decision makers to recognize the complexity of issues that confront them and recognize their own perspectives. Different points of view offer individuals the opportunity to reflect on the issues under study in ways that quantitative work cannot.

Provide voice. A final point that relates to the other claims we have made here pertains to the readability of the text. Just as quantitative research strives to have prose that is cool, disengaged, and stripped down such that the text is written in the most neutral of styles to strengthen its findings, so too does qualitative research have its own particular style. Qualitative research has to be readable, compelling, and well written (Caulley, 2008). Readers need to feel engaged with the text in a way that is unnecessary and/or impossible with quantitative work. The point is not that authors need to utilize a particular voice, or that one particular style should be preferred over another. Rather, our observation is that qualitative work can provide an understanding of the problems and people under investigation frequently through well-crafted work that creates some sort of socio-emotional bond with the reader. Studies of urban youth, for example, afford the reader the chance to see adolescents in ways that might provoke understandings that are impossible to attain through surveys or statistical techniques. The longitudinal study by Bourgois and Schonberg (2009) of homeless men and women who were addicted to drugs was compelling not simply because they had a superb research design but also because they were able to portray the situations of these individuals in ways that provoked in readers a sense that they could see the lives of these individuals, and in a way, cared about them.

Some of the most compelling social science research of the last century has been qualitative texts written by authors who had a deft sense of narrative. Franz Boas (1964) and Bronislaw Malinowski (1922), for example, not only advanced an understanding of culture, symbolism, and ritual but also enabled readers to understand

lives vastly different from their own. Michael Harrington's *The Other America* (1997) created a sense of urgency in the country about those who lived in poverty and helped create a raft of public legislation. Elliott Liebow's *Tell Them Who I Am* (1995) brought a face to those homeless individuals who are often faceless and voiceless and enabled legislators to come to grips with the increasing problem of homelessness. And of course, the wealth of books by Jonathan Kozol (1991, 2005) have demonstrated how inequity works in America's schools and has forced the reader and public policymakers to ask if it is impossible to create a better educational environment for children. All of these texts accomplish a different task from quantitative research and they have been of enormous benefit to policymakers attempting to develop policies that address the problems raised in their books.

Evolving Criteria for Conducting Policy-Oriented Qualitative Research

If one agrees with the purposes of and need for qualitative research, then a fair question is to ask how researchers might ensure that the conduct of the work is of high quality and utility. In what follows we offer a rubric that delineates those criteria based on previous work and recent studies by groups such as the National Science Foundation (Lamont & White, 2005; Ragin, Nagel, & White, 2004).

Description. The strength of qualitative research is that the analysis should be able to provide a text that provides a great deal of data about the topic under investigation. Description is fundamental to understanding social action; it offers the empirical bases for the judgments readers make about a text and situation. One of the shortcomings of some qualitative research is that only a handful of interviews or focus groups occur and the resulting analysis provides the reader with the thinnest of descriptions. Such work ends up as scholarly conjecture rather than a convincing argument. Clifford Geertz's famous dictum to gather "thick description" speaks to one of the strengths of this form of research (1973). If policymakers are struggling to create policies about topics which they have little first-hand experience, the ability to describe various situations as convincingly as possible will contribute to their understanding.

The strength of such an approach is that it has the potential of being complementary to quantitative studies that lack the ability for explanatory detail of specific issues. Obviously, different sorts of descriptions are possible. A thematic description, for example, will focus on a specific theme (such as socialization in academe) and a case description may involve a particular problem (such as strategic planning) across several sites. Group descriptions may look at a specific class or type of people (such as graduate students) and cultural descriptions focus on a particular group's cultural mores to understand what is shared across individuals.

One manner to judge the quality of a description is by its ability to convince the reader of the author's conclusions. The most frequent problem that arises for an author is that the conclusions go well beyond the data that are presented or that

the data are inadequate to arrive at any conclusion. On the one hand, a well-crafted description of a particular problem may enable the reader to understand a particular situation, but the author then jumps to conclusions that may or may not be warranted, but the data do not support the findings. On the other hand, the author has provided such a small amount of data that the reader is unable to make sense of the text. Both problems highlight the importance of retaining a narrow focus on the research project and providing as much detail as possible. The ability to be judicious in the scope of a study and to employ well-crafted, convincing data are standards for such a criteria.

Objectivity. Although the objectivity proposed on the part of the quantitative paradigm is impossible, one key criterion for policy-related qualitative research remains objectivity in both design and presentation. Readers need to understand the standpoint of the author on the particular issue, how the research design has been developed, and how the data were collected and analyzed. Ultimately, the reader—as with all texts—determines whether a text is biased or not. Such an observation is often difficult for the neophyte researcher. To insert one's standpoint into a text can be distracting and of little use. For example, to state that the author is vegetarian in a study about teaching is of no import; however, in a study about the ways chickens are slaughtered, a reader most likely should know of the author's dietary habits. Protocols provide readers with a sense of the manner in which the author approached the study and enable individuals to ascertain the even-handedness of the author. “I bet you have encountered a great deal of bias en-route to tenure” is different from a question that asks “Tell me about the bias you have encountered en-route to tenure” or “Tell me about the experiences you have had en-route to tenure.” Each question prompts a respondent in a different way. Although the first two questions might be useful for some sorts of studies, they tend to tilt the responses in a way that would be unhelpful for policy-related work.

Similarly, data collection and analysis have advanced a great deal from simply writing down notes and then making file cards to follow themes. The confidence of a reader in the worthiness of a text will be buttressed by providing background on the manner in which the author collected and analyzed the data. Transparency, in this way, becomes essential. Whether or not the researcher conducted enough interviews to make the interpretation credible is not for the researcher to decide post hoc. Similarly, contradictory data should not be concealed for the purposes of presenting a coherent, believable argument. During the design and execution of a study, the researcher has the ability to interview more participants and explore contradictions. During the presentation stage, the author has the duty to present the research as it was not as it should be. In addition, all researchers/authors have idiosyncratic ways of approaching their research topic and ensuring credibility. Glaser and Strauss (1967) suggest constant comparisons of conceptual categories to limit bias. LeCompte and Goetz (1982) suggest frequent participant reaction to data collection and interpretation. Idiosyncrasies, however, do not mean sloppiness or inevitable bias. Indeed, the background of a researcher may contribute to a reader's understanding of the research findings and recommendations. To the extent that a text offers readers background on the project's scope and purpose, the likelihood rises

in their confidence about the findings. When authors provide no discussion about the research and instead focus entirely on the data, they reduce the likelihood for objectivity and belief in the text. Thus, a significant discussion of research method, design, and researcher standpoint, focus, and purpose are examples of standards for these criteria.

Interpretation. Any intellectual problem has a multitude of interpretations. Although quantitative work often moves the reader toward a generalizable conclusion that forecloses other alternatives, qualitative research does the opposite. A shortcoming of some work is that authors present findings in deterministic fashion as if there is only one interpretation. Authors want readers to believe that the finding they have reached is based on data and then present confirmatory evidence. When one thinks about how the “real world” actually functions, however, there are almost always a variety of possible interpretations. In a study of the organizational culture of a college, for example, a great many interviewees may express confidence in the leadership of the institution; we doubt that everyone will. Similarly, in a study of a college access program, many students may talk about their desire to go to college and their inability to understand how to pay for it; but again, to assume that all humans think and speak alike belies how groups and societies function.

Even when data are presented in a manner that adequately mirrors the social reality of the setting, the findings themselves will be open to interpretation. Far too often research findings get presented as if the data logically lead to a causal outcome, which defies the underpinnings of qualitative research. Instead, the author needs to suggest possible interpretations for the data and present his or her conclusion about why one particular viewpoint is better than others. Consider, for example, an academically underachieving student. A range of interpretations may explain the student’s poor grades—i.e., engagement, peer group, home conditions. The author’s duty is to present the most salient data to justify his interpretations, but also introduce alternative perspectives. One indicator of the strength of qualitative research is in the author’s ability to demonstrate an understanding of multiple interpretations to data; in effect, the researcher needs to be able to anticipate the interpretations the readers might have and then provide an understanding about why one interpretation is the most plausible. If the data get presented in a manner that enables only one interpretation, then the author has failed in helping policymakers see various ways to think about complex issues. A willingness to offer more than one possible interpretation is a standard for this criteria.

Transferability. The strength of qualitative work is in the ability of a text to make connections to other settings. Transferability is not generalizability. However, no qualitative social science research would be very successful if the work had little or no connection to any other setting. Indeed, literature, philosophy, and history have a similar function. William Shakespeare’s plays have lasted for these last several centuries not because all of us live lives similar to Hamlet or Othello but because they enable us as readers and playgoers to think about the human condition. And a reader’s thinking at times may be empathic about what is read, but it does not need to be. What is necessary is a sense that the text pertains to something larger than the specific context under consideration.

For as long as anthropologists have been writing about other cultures, the assumption has been that readers pick up a text not simply to read about something, or someone, that they are ignorant about but to learn about their situations and their own lives. Such learning does not suggest that the way the subject under study is the way that all people should, or do, live but that we have something to learn when we study situations different from our own. To suggest otherwise closes off learning as if one only reaches conclusions from one's own experiences or data that applies to all across settings and contexts. Transferability, then, is a criterion based on the assumption that policymakers are able to read a qualitative text not so that they might understand the world in a teacup, so to speak, but so that they might think through how a world, fully described, gives them added information to reach an informed decision.

We are not suggesting, then, that transferability is a watered-down version of generalizability. Rather, transferability refers here to the ability of an author to evoke in readers an understanding of the research project in a manner that enhances understanding and presumably provokes questions regarding similarities and differences. Good qualitative research is meant to provoke conversations and debate rather than proffer a conclusion served as a *fait accompli*. The manner in which one accomplishes transferability has less to do with the data that are collected or the way they are analyzed and more to do with the ability to write a narrative and develop research questions that are specific yet still focus on critical questions. “*It is [the researcher’s] responsibility*” states Lincoln and Guba (1985), “to provide the data base that makes transferability judgments possible on the part of potential *appliers*” (p. 316). Any text that is so narrowly defined that it has no implications for anyone other than the specific situation being studied has failed in a key function for policy-oriented qualitative work. Why ask someone to read a text, however elegantly written or cleverly analyzed, if it affords no opportunities for the individual to learn anything about the problems he or she is facing? The standard for this criterion, then, is the ability of the author to offer lessons that will be of use to the reader in his or her situations.

Authenticity. Textual responsibility pertains not only to the reader who is a policymaker but also to those who were interviewed and involved in the study as research subjects. We referred earlier to the importance of interpretation. In order to understand a situation, one needs not only to provide thick description and undertake long-term research but also to see if the findings appear authentic to those under study. The point is not that the interviewees have veto power over what a researcher will write. However, qualitative data requires that the interviewees are involved in some manner in seeing if the findings that have been developed are in sync with their version of reality.

Minimally, we are suggesting that member checks ensure accuracy. An author should not write that the interviewee was 58 years old when she was 48, and so on. But more importantly, because of the indeterminacy of language, what one says may always be misinterpreted by the listener. Accuracy of the spoken word is not always possible, but one way to ensure that the researcher is closer to the intended meaning of the speaker is to try to gain understanding that is authentic (Wolcott, 1990). Accordingly, the research subjects’ different constructions and interpretations of a

situation need to be solicited and portrayed in a manner that is even-handed and judicious. Frequently, qualitative research has been conducted on issues pertaining to people on the margins, and oftentimes those people have been portrayed as powerless or embedded in a culture of poverty. Just as often, certain individuals get portrayed in these situations as oppressors. A study of immigration, for example, may discuss those who are undocumented as culturally impoverished and incapable of change; those who go to the border of the United States to catch individuals trying to come into this country may be seen as culturally ignorant imperialists. Our assumption is that neither group sees themselves in that manner. Undocumented individuals most likely think they face challenges, but they may also see themselves in a quite positive, empowering manner. Similarly, those who try to defend the border may not think of themselves as racist bigots; instead, they may believe they are patriots. Qualitative work that is authentic struggles to ensure that the interpretations people give to their lives are represented rather than falling by the wayside of an omnipotent author. For most qualitative researchers, an objective, knowable world does not exist. Yet, a better understanding of the world is possible, even if it is unstable. Authenticity as a standard improves credibility because it allows for multiple individuals to co-construct a more accurate interpretation of the phenomena studied. Authenticity ensures that those under study will be fairly represented and portrayed, and that steps will be taken to ensure that individuals are able to react to the data that have been collected and the manner in which they have been interpreted and portrayed.

Presentation. All of the previous criteria pertain to this final point. Unlike in quantitative work, the manner in which an author portrays the findings becomes a key part of the strength (or weakness) of the study. The manner in which one describes the situation and what gets included about the methodology, research design, researcher standpoint, and the like become much more complex decisions than simply cutting and pasting one's methodological findings. The elegance of the interpretations one provides and how one delineates whether those under investigation concur with the findings will either keep the reader involved in reading the text or fail because of a wooden or flawed writing style. If a text is written so narrowly that readers can make no larger connections, then transferability will be impossible. Furthermore, presentation is not bound by text alone. Photographs of a dilapidated apartment complex can vividly and quickly inform an audience of the living conditions of urban students.

Presentation is a skill that can be developed like any other. Just as someone becomes trained in regression discontinuity or multiple regression, so too can someone become versatile in portraying situations with style and grace. And just as some researchers will be better than others at one or another method, so too will some writers be better than others. The challenge for scholars is that they frequently need to un-learn or be able to write in a different register from standard academic prose. Qualitative research will be most useful for policy-oriented work if the texts are able to convince by the words, ideas, and images employed. Such a statement suggests that qualitative research has more in common with disciplines such as philosophy or history rather than those who subscribe to quantitative methodologies. Numerous

strategies, including the use of thick description, member checks, and peer feedback, not only improve credibility but also minimize the potential variance of meaning that occurs between the writer and the reader (Wolcott, 1990). The challenge for these criteria is in the ability of the author to convince the reader of the interpretations that have been developed and of what utility they may be for impacting policy.

Conclusion

Methodological arguments have raged for multiple decades (Gage, 1989; Guba & Lincoln, 2000; Lather, 2004). The points of contention among researchers, which have resulted in vehement disagreements, reflect different ontological, epistemological, and axiological beliefs. We acknowledge the methodological fissures caused after such contention. We also acknowledge a void in the current processes of policy formulation, implementation, and evaluation. We have argued here that standard utilization of quantitative criteria for ensuring validity and reliability in a research project is impossible for qualitative work. Unlike many qualitative critiques, however, which challenge the epistemological notions of quantitative work, we have struggled with what sorts of criteria we might utilize if one wants to undertake research that will help inform policy making. In doing so, we have tried to walk a narrow path. On the one hand, we have not wished to embark on yet another philosophical critique of positivism, and on the other hand, we have no desire to disdain the thoughtful experimental work of those who undertake auto-ethnography and the like.

Instead, we have tried to develop criteria that might be employed for those who wish to use qualitative work to inform public policy. An elegantly designed qualitative study has the ability to inform policy just as an elegantly designed quantitative study may do, albeit from a very different epistemological stance. Yet, the ways in which the two studies inform policy differ. This is the point we wish to highlight. Rather than viewing qualitative and quantitative methods as antagonistic in relation to policy, we view them as complimentary for policy-related work. Just as effect sizes can indicate the strength of relationship between two variables, so too can thick description present a rich understanding of the context of those relationships.

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Chapter 3

Multilevel Analysis in Higher Education Research: A Multidisciplinary Approach

John J. Cheslock and Cecilia Rios-Aguilar

Introduction

Most quantitative studies in higher education utilize cluster data sets where students are nested within schools, faculty are nested within higher education institutions, or higher education institutions are nested within states. Higher education researchers also employ panel data sets where individual entities (e.g., higher education institutions) have multiple observations, with the observations representing different periods of time. Because individual observations are essentially nested within entities in panel data, its structure is very similar to a cluster data set. This data structure, where individual observations are nested within groups, is present in other types of data sets as well. The term multilevel data is typically used to describe this structure. Multilevel data often contain independent variables representing the individual observations (which we will call level-1 variables) and independent variables representing the groups in which the observations are nested (which we will call level-2 variables).

A researcher restricted to using a standard OLS regression could only produce limited insight into the variation contained within these sorts of multilevel data sets. Tests of statistical significance would be inaccurate because the correlation between error terms within groups would lead to incorrect standard error estimates. Bias in level-1 coefficients could not be reduced by controlling for all observed and unobserved level-2 variables that are consistent across the group. The researcher could not effectively measure variation across groups in their level-1 intercepts and coefficients and could not examine how those group-specific intercepts and coefficients covary with level-2 variables. And individual estimates of these level-1 intercepts and coefficients could not be produced for specific groups with smaller sample sizes.

Multilevel models allow researchers to produce accurate standard errors, reduce level-1 coefficient bias, measure variation across groups in their level-1 coefficients,

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and produce level-1 estimates for specific groups with smaller sample sizes. Higher education researchers are often aware that some of these potential benefits exist, but few are conscious of the wide range of remedies just mentioned. Which remedies are known by an individual researcher? The answer often depends upon the statistical tradition within which the researcher was trained.

Within higher education journals, researchers almost exclusively draw from two traditions when performing advanced regression analysis of multilevel data (Cheslock & Rios-Aguilar, 2008). The first class, hierarchical linear models (HLM) were brought into prominence by Bryk and Raudenbush (1992) and are clearly the technique of choice within higher education research. The second class of models, which are growing in use in higher education, is commonly referred to as econometric panel models, but they have received less attention from higher education researchers.

The econometric approach is often very simple: The basic econometric models focus on exploiting the multilevel structure of the data to reduce bias created by the lack of controls for unobserved group-level characteristics. These models seek to control for these characteristics by exclusively using variation within groups when estimating the results. Econometric textbooks discuss this approach in depth and the applied researcher, after reading these texts, will likely seek research contexts where within-group variation is of special interest.

The applied researcher would, however, search for very different contexts after reading an HLM text. While the option to estimate results solely using variation within groups is briefly noted within these texts, it is not featured as a major opportunity created by multilevel data. Attention is placed instead on variation across groups in terms of outcomes or in terms of the relationship between outcomes and individual-level explanatory variables. Applied researchers will consequently be drawn to studies for which heterogeneity across groups is especially relevant and of interest.

Higher education researchers would benefit from the perspectives emphasized in both traditions. When researchers are not able to experimentally assign the policy or the practice of interest, the econometric focus on reduction in coefficient bias for the overall coefficients will be of special interest. But educational researchers are often not interested in just the overall relationship, and the HLM approach emphasizes opportunities to thoroughly examine how these relationships vary across groups or group-level characteristics.

Most higher education researchers typically view multilevel data solely through the HLM or econometric lens. Clearly, higher education research would be enhanced if researchers knew and employed the primary insights from both traditions. But to do so presents a number of challenges. Applied educational researchers are usually trained within just one tradition, and because econometrics and HLM often differ in very significant ways, researchers may not be able to easily translate their mastery of one tradition into an understanding of the other. For example, key terms, such as random-effects and fixed-effects, mean very different things across these two traditions. Also, models that produce almost identical overall results vary substantially in presentation. HLM are presented using multiple equations, while

econometric models are typically based on a single equation. As a result, many applied researchers do not even realize the underlying similarities across these models, thereby complicating efforts to critically examine the work of others.

Even more troubling is the evidence that many education researchers are not even properly employing the statistical tradition in which they were trained (Cheslock & Rios-Aguilar, 2008; Dedrick et al., 2009). Researchers are often not fully exploiting the opportunities presented by multilevel data to gain deeper insights into the phenomenon under study. Instead, they are simply employing the most basic HLM or econometric model without deep thought about how to craft and interpret the model to maximize insight.

The goal of this chapter is to improve future analysis of multilevel data. To guide this work, we provide a framework containing a simple yet insightful presentation of the core benefits of multilevel data. The econometric and HLM approaches to multilevel data are presented and then contrasted in terms of numerous elements, including the benefits they feature.¹ We also examine a number of studies from the literature that demonstrate how researchers can reap the potential benefits of multilevel data.

This chapter seeks to make a targeted contribution to the literature. Except for several attempts to generalize the issues, we focus solely on issues pertaining to multilevel data. Even more specifically, we discuss only multilevel analysis that occurs within a regression framework. This restriction reflects the regression-based focus of econometrics and the knowledge base of the authors. Readers who primarily employ other statistical approaches, such as structural equation modeling (SEM), should gain some relevant insights, but researchers using regression-based approaches should benefit the most from this chapter.

Our targeted audience is applied higher education researchers, not methodologists. Advanced methodologists who specialize in econometrics or HLM will typically not be confused or influenced by differences in model presentation and terminology or by the emphasis assigned to the various benefits of multilevel models. In contrast, many applied researchers will be, and consequently, we have designed this chapter with them in mind.

Generalizing the Challenge

Before delving into specifics, some generalization of the phenomenon under study would be helpful. The challenges faced by higher education researchers when employing multilevel data are not unique. In almost all methodological areas, we must ask: From which areas of the academy should higher education researchers

¹To our knowledge, only one previous paper has spent considerable space directly comparing statistical models from these two specific traditions (HLM and econometrics), and this paper was prepared for a conference and not disseminated into the education research community (Chaplin, 2003).

borrow methods, and how do we effectively communicate with each other if we choose methods from multiple areas?

No large body of methods has been intentionally designed for the particular context and questions faced in higher education research. Consequently, we must borrow from elsewhere. Such borrowing would be simplest if we restricted ourselves to methods from one other academic field. Higher education programs could easily funnel all of their students into the same methodological courses from that field which would simplify advising. Communication at higher education conferences or within higher education journals would be seamless as all researchers would employ similar terminology and methods. But this simplicity would come at a substantial cost. Higher education researchers perform studies that are similar in nature to those conducted in sociology, psychology, economics, political science, anthropology, geography, educational psychology, and other areas of study. Each of these fields has developed methods that are appropriate for the context and research questions of interest in their disciplines. Whereas the methods of any one field would be appropriate for some higher education researchers, they would be inappropriate and of little help to others.

Thus, it appears we will produce greater insights if we borrow our methods from multiple fields. However, the nature of academe presents challenges to doing so. Academic disciplines have become silos across which fairly little communication occurs (Becher & Trowler, 2001). Each field invests heavily in the development of their own methods, but little effort is expended on contrasting and reconciling the methods developed within these fields. Consequently, higher education researchers are provided with little guidance when seeking to identify the methodological approach that would best complement their research agenda.² Efforts to compare studies that use methods from different disciplines are also challenging because few authors have sought to reconcile the varying terminology and model presentations that make similar statistical approaches across fields appear quite different. Also, past work has typically not provided guidance for researchers seeking to simultaneously utilize the insights of multiple statistical traditions.

This chapter seeks to address these challenges for a small part of the methodological world: statistical models appropriate for multilevel data. To help researchers make informed choices when selecting among different statistical traditions, we will clearly explain the benefits of each approach. We will also reconcile varying terminology and model presentation so that researchers trained in one tradition can utilize their knowledge when examining research using alternative statistical traditions. In addition, we seek to aid those who wish to conduct research using a methodological approach that is not located solely within one methodological silo. Higher education

²Of course, knowledge is only one of the challenges faced by higher education researchers when choosing the methodological approach in which to specialize. Students within higher education programs often face difficulty gaining access to graduate methodological classes in particular fields, and some programs, such as economics, teach in a manner that requires high levels of prior mathematical training. For these and several other reasons, higher education programs have historically funneled their students into methodology courses taught within educational psychology.

researchers have the ability to utilize the primary insights of multiple traditions, and we will provide advice on how to do so.

The Problems and Opportunities Presented by Multilevel Data

Before we compare particular traditions, we need to provide a framework within which comparisons can be made. The most helpful framework would clearly articulate the primary benefits associated with the advanced analysis of multilevel data. Most textbooks outline numerous benefits, but these lists vary substantially across books and often include a number of abstract benefits. This may be one of the reasons that many higher education researchers have not clearly articulated their motivation for using a multilevel model (Cheslock & Rios-Aguilar, 2008). Furthermore, most researchers are not strategically utilizing multilevel data to advance a core objective of their study. Multilevel models are employed, but they are not employed strategically. Perhaps this phenomenon explains the following statement by Smart: “the results obtained thus far from the use of HLM have not suggested any dramatically different conclusions from those based on the use of more conventional analytical procedures” (2005, p. 466).

We believe a conceptual framework that promotes a deep understanding of the potential benefits of multilevel analysis will encourage more strategic utilization of multilevel methods. We present here our list of the most important benefits. This list was developed with the applied use of multilevel models in mind, so the benefits connect with the potential objectives of a research study. Our list and our subsequent discussion are focused on simplicity. The core benefits of multilevel analysis are simple, but they are often presented alongside numerous technical complexities. This presentation style leads to partial comprehension of the core benefits, and until those benefits are deeply understood, the researcher runs the risk of employing advanced models for trivial ends. We hope our simpler approach helps promote that deep understanding.

Our list is designed to answer the basic question: Why should researchers use advanced models when using multilevel data in a regression framework? We believe there are four primary advantages to a regression-based multilevel model. The importance of each individual benefit depends upon the particulars of the study in question, which means the main justification for using a multilevel model will vary across studies. The four primary benefits of such a model are the following:

1. Improved estimation of standard errors.
2. The opportunity to estimate level-1 coefficients solely using within-group variation, solely using between-group variation, or using a combination of the two.
3. Examination of whether and to what extent key level-1 coefficients vary across groups and group characteristics.
4. The estimation of level-1 coefficients for a specific group even if the number of observations for that group is relatively small.

Improved Estimation of Standard Errors

When higher education researchers who use HLM justify their methodological choices, they typically note the first benefit (Cheslock & Rios-Aguilar, 2008). This benefit occurs because the standard error estimates from an ordinary least squares (OLS) regression are correct only when the error terms across observations are uncorrelated. But such an assumption is unlikely to hold in studies using multi-level data. Two individuals in the same group are likely to share traits that lead to membership in that group, and they will share numerous experiences as participants of that group. If these traits and experiences are important determinants of the outcome under study, and if one's regression model does not fully control for them, a portion of these traits and experiences will be included in the error term. As a result, the error terms of individuals in the same group will be correlated.

The most common multilevel structure within higher education research is students nested within higher education institutions. The aforementioned benefits of employing a multilevel approach are very relevant in this case. Past research has clearly demonstrated that attendance patterns across institutions are stratified in terms of academic preparation, socioeconomic status, and other traits that influence most outcomes. Furthermore, higher education institutions vary in culture, educational opportunities, and other aspects that would also impact most educational outcomes. However, researchers will never have detailed enough information to sufficiently control for these student and institutional traits, so error terms across students at the same institution will tend to be correlated.

Multilevel models do not require an assumption of uncorrelated error terms, so this issue is remedied. But one could also relax this assumption using a much simpler approach. Robust standard errors that allow for clustering at the group level can be estimated for an OLS regression, and the resulting standard errors will be correct even in the presence of correlated error terms (Huber, 1967; Rogers, 1993; White, 1980). While a multilevel model may still be more efficient in that it minimizes variance, this benefit may be relatively minor compared to the other three benefits mentioned above. In other words, when students are nested within institutions, benefits two through four will often provide much more compelling justifications for employing a multilevel model.

The Opportunity to Estimate Level-1 Coefficients Solely Using Within-Group Variation, Solely Using Between-Group Variation, or Using a Combination of the Two

When estimating coefficients for explanatory variables measuring characteristics of the individual observations that are nested within groups (i.e., level-1 explanatory variables), a pooled OLS regression uses a very different combination of

within-group and between-group variations than does a multilevel model.³ To understand how pooled OLS and multilevel models differ, one must first be able to answer the following question: What does it mean to estimate a regression solely using within-group or between-group variation? Consider a study that examines how the parental income of a student predicts the amount of grants that student receives from the higher education institution she or he attends. Such a study uses data containing students from a number of different higher education institutions.

Regressions using only within-group variation would only compare institutional grants across students who attend the same institution but who have different parental income levels. If higher education institutions primarily distribute grants based on financial need, we would expect lower income students to receive more institutional grant dollars than would upper income students who attend the same institution. If true, analysis of within-group variation would reveal a strong negative relationship between parental income and institutional grants.

Regressions that solely rely upon between-group variation would ignore differences among students at the same school and focus instead on variations among students attending different schools. This regression would focus on how the average parental income of an institution's students covaries with the average level of institutional grants received by these students. In other words, it would utilize individual-level data aggregated at the group level. Such analysis may not reveal a strong negative relationship because higher income students attend very different schools than do lower income students, and these differences across schools may influence grant levels. For example, schools that disproportionately enroll higher income students charge higher tuition, which will increase the need for institutional grants. Furthermore, these schools are often relatively wealthy, which will make it easier for them to forego the revenue required to offer more generous financial aid packages. Consequently, the average grant offered by schools enrolling wealthier students may be similar or even higher than that of schools enrolling lower income students, even if wealthy students at each school receive less institutional grant dollars than do their lower income colleagues at the same institution.

Figure 3.1 illustrates how analysis that solely uses between-institution variation produces different results than analysis that solely uses within-institution variation. Regression lines HT, MT, and LT represent separate regressions for a high-tuition, medium-tuition, and low-tuition institutions. Each of these regressions has the same negative slope, but the level of each regression line rises with the tuition level of the institution. These regression lines demonstrate a strong negative relationship between parental income and institutional grants when within-institution variation is isolated. Regression line BI represents a regression based on the average parental income and institutional grants for each institution. Line BI is positive because the high-tuition school provides more grant aid and enrolls students with higher parental incomes than does the low-tuition school. So, while the regression lines examining

³Pooled OLS simply means an OLS regression that examines a data set that combines data from a number of different groups.

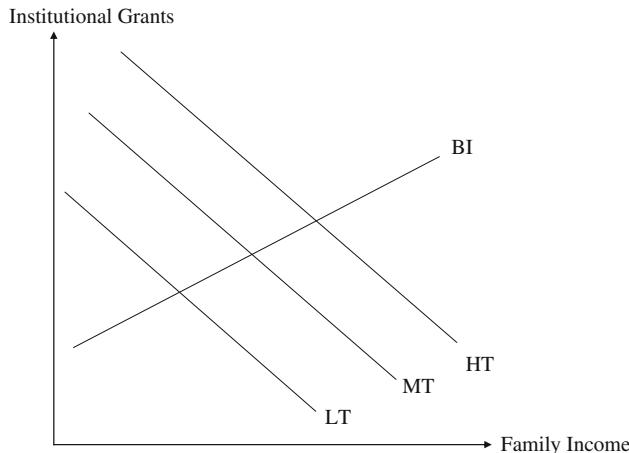


Fig. 3.1 Within- and between-group regression lines

within-institution variation reveal a strong negative relationship, the regression lines examining between-institution variation indicate a positive one.

A pooled OLS regression will produce neither the within-group nor the between-group estimate but will instead produce a weighted combination of the two. Raudenbush and Bryk (2002) present the following equation, which details the specific weights assigned to each:

$$\hat{\beta}_t = \eta^2 \hat{\beta}_b + (1 - \eta^2) \hat{\beta}_w, \quad (1)$$

where β_t represents the pooled OLS coefficient, β_b represents the between-group estimate, β_w represents the within-group estimate, and η represents the ratio of the between group sum of squares on the independent variable (X) to the total sum of squares on X (p. 137). This equation reveals that the pooled OLS regression estimate will fall between the between-group and within-group estimates and will be closer to the between-group estimate when most of the variation in X occurs between groups and closer to the within-group estimate when most of the variation in X occurs within groups. For the institution grant/parental income example, the pooled OLS estimate will depend upon the variation in parental income. If parental income levels vary substantially across students at the same institution, then β_t will be relatively close to β_w . If parental income levels are similar across students at the same institution but vary substantially across institutions, then β_t will move toward β_b .

In contrast, a multilevel model will use a very different combination of between-group and within-group variation with the relative contributions depending upon the particular model estimated. As we shall elaborate upon later, two basic multilevel model types are typically estimated. The first type incorporates the fixed-effects model within econometrics and the group-mean centered model within HLM, while

the second type incorporates the random-effects model within econometrics and HLM that include grand-mean or no centering. The first model type simply produces the within-group estimate, while the second produces another weighted combination of the within-group and between-group estimates. The weighted combination used in a random-effects/grand-mean centered model will always produce a coefficient that falls somewhere between the pooled OLS and the within-group estimates. This coefficient will be similar to the pooled OLS estimate when the unexplained variation within groups is relatively large and will be similar to the within-group estimate when the unexplained variation across groups is relatively large. We will explain this point more thoroughly later in the chapter.

To summarize, the relationship between the dependent variable and a level-1 independent variable can be described in a number of ways when one uses a multilevel data set. The most commonly used descriptions include the following:

- Between-group estimator
- Pooled OLS estimator
- Random-effects/grand-mean centered HLM
- Within-group estimator (fixed-effects/group-mean centered HLM)

This list reflects the ordering of the magnitude produced by each estimator. The between-group and within-group estimators will produce the most extreme values, while the pooled OLS and random-effects/grand-mean centered estimators will produce results within those two extremes. In some studies, the between-group estimator will possess the most positive value and the within-group estimator will possess the most negative value. In other studies, the opposite will occur.

Which estimator should be employed? When you are primarily interested in the individual-level (level-1) independent variables rather than the group-level (level-2) variables, the within-group estimator is often of special interest. Why? Consider a research study that is seeking to estimate the causal effect of a level-1 independent variable. If the regression analysis does not properly control for group-level determinants of the outcome that are correlated with the individual-level variable of interest, then the estimated coefficient for that individual-level variable will be biased. The estimated coefficient will contain the true causal effect plus a portion of the effect of the group-level determinant.

The within-group estimator addresses this problem by implicitly controlling for all group-level determinants so that the effects of these determinants are not mistakenly assigned to individual-level explanatory variables. It is easy to understand intuitively why implicit controls are present: The within-group estimator solely compares individuals who have the same values for all group-level variables. Such comparisons are of great interest when we cannot effectively measure many important group-level determinants, which prevent direct statistical controls for these determinants. Of course, the within-estimator is not a panacea. As our section describing examples from the literature will reveal, one still needs to employ substantial assumptions to interpret the within-group estimator as producing a causal result. Furthermore, “going within” can create new problems, discussed in more

detail below. The within-group estimator, however, can be a helpful part of an array of tools used to measure causal relationships. This estimator will usually get us closer to the true causal effect, and when the primary issue is missing controls for group-level determinants, this estimator can be extremely valuable.

The range of estimators that can be employed alongside multilevel data is also helpful for studies that do not seek to describe a causal relationship. Consider again an examination of how institutional grants vary by a student's parental income. We may wish to simply understand how these grants are allocated across students with various income levels and not really care if parental income levels are (or are not) the actual cause of the observed differences in grant receipt. We may be quite interested in both the within-institution and between-institution patterns because this information would provide unique insights into how financial aid is distributed across students and institutions.

Another example would be a study of racial/ethnic gaps in graduation rates. If we find lower *overall* graduation rates for underrepresented minorities, we could increase our understanding of this relationship by examining both the between-institution and within-institution effects in isolation. Some questions that could be answered by this inquiry include the following: Do underrepresented minorities disproportionately enroll at institutions with lower graduation rates for all students? Do they have lower graduation rates than fellow students who are enrolled at the same institutions? Additional interesting comparisons can be made by including statistical controls for other individual-level traits. These examples demonstrate how multilevel data can help a researcher provide a much richer description of the relationship(s) under study.

Cronbach (1976) provides further illumination of this issue by noting that different types of analyses often relate to fundamentally different research questions that often produce very different results. As demonstrated by the previous paragraph, the within-group and between-group estimators typically relate to clearly defined questions regarding level-1 variables. The pooled OLS and the random-effects model/grand-mean centered HLM utilize combinations of within- and between-group variations and are consequently much harder to connect to research questions. Consequently, Cronbach (1976) dissuades researchers from utilizing such composite variables because they are “rarely of substantial interest” (p. 228).

Examination of Whether and to What Extent Key Level-1 Coefficients Vary Across Groups and Group Characteristics

The previous section focused on estimating an overall relationship between variables that is consistent in magnitude across groups. But some authors claim that such an overall relationship is of limited use in educational research. Labaree (2003) notes that educational “researchers are unlikely to establish valid and reliable causal claims that can be extended beyond the particulars of time, place, and person”

(p. 14). Berliner (2002) highlights the “power of contexts” within education, which results in relationships varying substantially across settings (p. 19).

Multilevel data allow a researcher to investigate across settings, especially for individual-level explanatory variables. The variation across groups in level-1 relationships can be estimated so that we can understand the degree to which findings vary across contexts. Consider again research that examines how institutional grants vary by the financial resources of a student/their family. Would we expect this relationship to differ across higher education institutions? Probably, because institutional financial aid is offered for a number of reasons only one of which is income related. In some instances, schools provide aid to increase access for low-income students, which results in a strong negative relationship between institutional grants and income. In other cases, schools use aid to attract students with particular traits, such as strong academic preparation. In this case, if upper income students applying to a particular school are disproportionately well prepared, the result would be a positive aid/income relationship. If higher education institutions differ substantially in their motivation for offering institutional aid, the relationship between aid receipt and parental income will vary substantially by school. Multilevel data and methods will allow a researcher to measure the magnitude of that variation.

In most studies, researchers will want to better understand the variation across groups in level-1 coefficients. While it is helpful to know that this variation exists, knowledge about the relationship between such variation and group-level characteristics typically provides even greater insights. Which institutions concentrate their institutional aid on lower income students? Which focus more of their aid on upper income students? A researcher can answer these questions by using multilevel data to identify institutional characteristics that are correlated with patterns of aid distribution.

Often, one’s conceptual framework can identify group-level characteristics that predict level-1 relationships. This point is illuminated by a third reason for a higher education institution to offer aid. Colleges and universities that are not at enrollment capacity can theoretically improve their economic situation by offering institutional aid to students who are on the margin of enrolling (Breneman, 1994; McPherson & Schapiro, 1998). These students are more likely to attend if they are provided institutional aid, so the aid offer increases net tuition revenue by the sticker price minus institutional aid. The increase in cost is relatively small as the student will be filling an empty seat because the institution is not at enrollment capacity. This logic closely follows microeconomic theory and is often used as a framework for explaining the allocation of institutional aid. This framework has one clear prediction: Variables that measure whether an institution is below enrollment capacity will have a strong influence on the relationship between institutional aid and parental income.⁴

⁴This prediction clearly assumes that parental income is likely to be correlated with the propensity of students to be on the margin of attendance. Because price responsiveness and the number of submitted applications vary by a student’s parental income, such an assumption is realistic.

Estimation of Level-1 Coefficients for a Specific Group Even if the Number of Observations for That Group Is Relatively Small

If a researcher has a large number of observations for each group, the estimation of level-1 coefficients for each group is fairly easy. But in most multilevel data sets, researchers have a relatively small number of observations for some groups.⁵ How do we produce valid estimates for each group in this scenario? Gelman and Hill (2007) helpfully explain that a multilevel model can produce estimates for each group that are a weighted average of the “no pooling” and “complete pooling” estimates. The “no pooling” estimate for a particular group is produced by analyzing only those observations in the group. The “complete pooling” estimate is produced by simultaneous analysis of all observations in the data set.

For groups with small sample sizes, the multilevel estimate will be closer to the “complete pooling” estimate. We have little confidence in the “no pooling” results for these groups because the results are based on a small amount of information. When the number of observations grows, however, a group’s estimate can move closer to the “no pooling” estimate.

Producing results for each group allows us to reap some of the benefits mentioned earlier. Doing so helps us examine the variation across groups as well as how this variation relates to group characteristics. But in some cases, researchers will be interested primarily in estimates for specific groups. For example, a researcher conducting a mixed-methods study may seek to identify specific higher education institutions that concentrate their aid on low-income students as well as specific institutions that concentrate their aid on upper income students. The identification of such institutions can be achieved through the analysis of a multilevel data set that produces estimates of level-1 coefficients for each institution.

Generalizing the Potential Benefits of Multilevel Data

Shadish, Cook, and Campbell (2002) present a helpful validity typology that sheds insight into the potential benefits of multilevel data. They outline four types of validity. Statistical conclusion validity occurs when statistics are appropriately used to infer whether the independent and dependent variables covary. Internal validity refers to whether the covariation reflects a causal relationship. Construct validity involves making inferences from the sampling particulars of a study to the higher order constructs they represent. External validity refers to whether the cause-effect relationship holds over different persons, settings, treatment variables, and measurement variables.

⁵To understand what we mean by a “small number,” consider the sample size requirements for statistical analysis in general. Now apply those requirements to each group in the analysis.

Each of the four benefits discussed earlier is related to this validity typology.⁶ The first benefit of multilevel data, improved estimation of standard errors, improves statistical conclusion validity. The opportunity to estimate level-1 coefficients solely using within variation, which is the second benefit, can improve internal validity in many contexts. The third benefit examines whether results consistently hold across groups so that this benefit closely relates to external validity. If we know that the results vary little across individual settings, then we can be more confident when using overall results to help shape policy for a particular setting.

Later in this chapter, we will highlight how the econometric approach to multilevel data focuses on the second benefit, while the HLM approach concentrates on the third and fourth benefits. In other words, econometrics fixates on using multilevel data to improve internal validity, while HLM is heavily concerned with issues relating to external validity. The trade-off between internal and external validity is the most major and most discussed tension within the research design literature (Shadish et al., 2002, p. 96). Researchers regularly face choices where one option improves internal validity at the expense of external validity and vice versa. A theme of this chapter is that almost all previous research solely utilized either the econometric or the HLM tradition when examining multilevel data. Consequently, previous work has chosen to use multilevel data to improve internal validity or external validity but rarely both. Such trade-offs are not required for the analysis of multilevel data, however, and we will promote an approach to research that simultaneously advances both forms of validity.

This discussion has emphasized studies that examine research questions of a causal nature. Internal validity is relevant only to such questions. But multilevel data can also advance non-causal studies in which external and statistical conclusion validities are still of concern. And non-causal studies can often be advanced by estimating relationships separately for within-group variation, between-group variation, and total variation. Each type of variation produces answers to distinct questions. So, the general points made within this section apply to non-causal studies as well.

Overview of Econometric and HLM Approaches to Multilevel Data

One cannot contrast the econometric and HLM-based approaches to multilevel data until one develops a basic understanding of the key elements of both traditions. Therefore, both are introduced here. We do not cover the full range of issues for each approach; we focus on basic topics that are relevant for the purposes discussed in our introduction. We place a heavy priority on simplicity and accessibility so that a strong core understanding of each tradition can be easily attained. Previous

⁶The fourth benefit connects to multiple elements of Shadish, Cook, and Campbell's validity typology. Because the upcoming discussion focuses on the trade-offs between validity types, we will focus solely on the first three benefits.

handbook chapters discuss each tradition in more depth, and we hope our work will help readers develop a deeper understanding of the more advanced points discussed there (Ethington, 1997; Zhang, 2010).

This chapter divides multilevel methods into two categories: HLM-based multilevel models and econometric-based multilevel models. Some justification for that decision is required. In our review of the higher education literature, we were able to easily assign every reviewed article that used advanced multilevel models to one of these two groups (Cheslock & Rios-Aguilar, 2008). For most journal articles, one can quickly identify the tradition within which the author has been trained because of differences in terminology, model presentation, and motivation. While more general approaches to multilevel data exist (e.g., Gelman & Hill, 2007), the econometric and HLM approaches dominate current practice.

The names used for each category also deserve some mention. We use HLM for the first category to reflect the often-used terminology within educational research, which demonstrates the influence of Bryk and Raudenbush (1992) and Raudenbush and Bryk (2002). These textbooks, both entitled “Hierarchical Linear Models,” have dominated the literature and the acronym HLM has come to represent multilevel model among educational researchers. Of course, many textbook authors who present models similar to those of Bryk and Raudenbush do not use the term hierarchical linear model or HLM (e.g., Heck & Thomas, 2009). Often, they simply use the term multilevel model, and sometimes define this term in a very specific way that does not include the basic econometric models. In this chapter, we use the term multilevel model in a more general way: to describe any model that was designed for use on multilevel data. We experimented with a more general name that is consistent with prior usage, but “models designed for multilevel data” proved clumsy.

When describing econometrics and HLM, we focus on the issues emphasized within each one. Overall, both traditions cover similar ground, but the emphasis placed on particular elements differs dramatically. For example, most econometrics textbooks spend little time discussing how researchers can examine heterogeneity across groups using multilevel data, but a lack of emphasis does not mean that this approach is completely absent. Some prominent journal articles in economics, such as Rivkin, Hanushek, and Kain (2005), examine how level-1 coefficients vary across groups. Econometrics also contains a class of models, called random coefficient models that are designed to examine heterogeneity across groups. These models, however, are rarely covered in econometrics textbooks, and most economic journal articles use multilevel structures to reduce bias rather than to examine heterogeneity. Researchers who are not methodologists will primarily grasp the benefits that are featured within a tradition, so our overview will discuss what is emphasized in each.

Introduction to HLM

When higher education researchers justify their decision to employ HLM, they cite Raudenbush and Bryk (2002) more than any other text (Cheslock & Rios-Aguilar, 2008). Given the influence of this book, we will focus heavily on its presentation

of HLM. We will pay special attention to terminology, model presentation, featured data set types, and the benefits by which the models are motivated.

Raudenbush and Bryk (2002) feature examples based on cluster data sets where students are nested within schools. These data sets are combined with models that are presented as a series of three equations. The first equation represents a student-level regression that produces estimates for separate intercepts (β_{0j}) and slope coefficients (β_{1j}) for each school. In the next two equations, the school-level intercepts and slope coefficients are then regressed on school-level variables (W_j):

$$\text{Level-1 model (students)} \quad Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij} + e_{ij}, \quad (2)$$

$$\text{Level-2 model (schools)} \quad \beta_{0j} = \gamma_{00} + \gamma_{01}W_j + u_{0j}, \quad (3)$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}W_j + u_{1j}. \quad (4)$$

Students are denoted by the subscript i , while schools are denoted by j . Raudenbush and Bryk (2002) call this “full” model the “intercepts- and slopes-as-outcomes model” and also present a number of models which restrict some parameters to be constant across groups.

The benefits featured within this HLM tradition lie in the estimation of β_{0j} and β_{1j} . These parameters describe the student-level results for school j , and the estimation of these parameters can provide insights into how student-level results vary across schools or school-level characteristics. (In other words, these parameters can help establish the third benefit of multilevel data presented in our framework above.) The variation in β_{0j} and β_{1j} describes the differences across schools, and the cross-level effects (γ_{01} and γ_{11}) describe the variation across school-level characteristics. Raudenbush and Bryk (2002) describe how the covariation of β_{0j} and β_{1j} can also be helpful in certain settings.⁷

The primary examples used in Raudenbush and Bryk (2002) come from a study where the dependent variable is mathematics achievement and the independent variable is socioeconomic status. Such a study is greatly augmented by analysis of how student-level relationships vary across schools. If high-SES students perform better than low-SES students, then a school has a strong positive relationship ($\beta_{1j} > 0$). If no relationship exists ($\beta_{1j} = 0$), students of different SES levels achieve similar levels of academic success. The variation in β_{1j} across schools describes how the SES-achievement relationship fluctuates across schools. If W_j represents a school’s financial resources, then γ_{11} permits analysis of whether additional funding is associated with a school’s SES-achievement relationship. Thus, the covariation of β_{0j}

⁷For these points, our focus on simplicity is obscuring some important technical details. The HLM framework does not include direct analysis of the variation in β_{0j} and β_{1j} using equations (1)–(3). Instead, this variation is measured by estimating a different set of equations which do not contain W_j in equations (2) and (3). Raudenbush and Bryk (2002, p. 77–80) call this restricted version the “random coefficients” model. Using this model, one can examine the variation in β_{0j} by estimating the variance of u_{0j} . The variation in β_{1j} can be examined by estimating the variance of u_{1j} .

and β_{1j} indicates whether a school's average level of achievement is related to its SES-achievement relationship.

Raudenbush and Bryk (2002) clearly emphasize how multilevel data allow a researcher to examine whether group-specific level-1 parameters vary across groups or group characteristics. Their presentation, however, also notes the second benefit of multilevel data featured in our framework. They also discuss how multilevel data allow one to estimate overall level-1 (i.e., student level) parameters solely using within-group variation, solely using between-group variation, or using a combination of the two. These considerations primarily arise during discussions of centering.

Centering involves the choosing of alternative locations of the independent variable. Researchers typically center at the grand-mean (\bar{X}) or at the group-mean (\bar{X}_j). To center at the grand mean, one simply subtracts the overall mean from each of the predictors:

$$Y_{ij} = \beta_{0j} + \beta_{1j}(X_{ij} - \bar{X}) + e_{ij}. \quad (5)$$

To center at the group mean, one subtracts the group mean from each of the predictors:

$$Y_{ij} = \beta_{0j} + \beta_{1j}(X_{ij} - \bar{X}_j) + e_{ij}. \quad (6)$$

Centering at the grand mean has minor implications for researchers because it just changes the interpretation of the intercept. However, group-mean centering fundamentally changes the analysis, as this form of centering causes β_{1j} to be estimated solely using within-group variation.⁸ Without group-mean centering, β_{1j} is computed using a weighted combination of within-group and between-group variations.

Raudenbush and Bryk (2002) explain the implications of centering and clearly recommend the use of group-mean centering for studies focused on overall level-1 coefficients (pp. 135–141, 261–263). Their recommendation is accompanied by an explanation of positive attributes of the within-group estimator. These discussions, however, are brief and occur in less-prominent parts of the text. For example, the major explanation of these issues (on pages 135–141) occurs within the “special topics” portion of Chapter 5. Raudenbush and Bryk (2002) reserve the prominent parts of their text for analysis of how results vary across groups or group-level characteristics. In other words, they feature the third benefit of multilevel data documented in our conceptual framework rather than the second.

While Raudenbush and Bryk (2002) primarily consider data sets where individuals are nested within organizations, they devote Chapter 6 to data sets that

⁸Within HLM, the within-group estimator can also be obtained by including group means of each level-1 variable in each level-2 equation. In other words, we would add \bar{X}_j as an independent variable to equations (3) and (4). Raudenbush and Bryk (2002) also discuss this approach.

contain multiple observations for the same unit. Their primary example features a data set containing multiple observations over time for each student. These data are multilevel because the individual observations are nested within the student.

Raudenbush and Bryk (2002) recommend a very different model for these data structures.

This model's level-1 equation estimates the growth rate for the outcome of interest:

$$Y_{ti} = \pi_{0i} + \pi_{1i}a_{ti} + \pi_{2i}a_{ti}^2 + \dots + \pi_{Pi}a_{ti}^P + e_{ti}. \quad (7)$$

The level-2 equations then examine these growth parameters:

$$\pi_{pi} = \beta_{p0} + \beta_{p1}X_{1i} + r_{pi}. \quad (8)$$

In these equations, a_{ti} represents the age of student i at time t .

This growth model fundamentally differs from the earlier version presented in equations (2–4). The inclusion of numerous age variables in the growth model allows the researcher to examine how student-level variables (X_{1i}) alter the growth trajectory of the outcome. In contrast, the previous model examined how explanatory variables influenced the outcome at a point in time. The growth model also differs in that it does not include any individual-level variables (X_{ti}). For the example of individual observations nested within students, X_{ti} would contain a variable measuring some aspect of the student at time t . The above equations only incorporate X_{1i} , which measures some aspect of the student that is consistent throughout the period under study.

Raudenbush and Bryk (2002) briefly note that time-varying student variables (X_{ti}) could be incorporated into analysis of time-related multilevel data (p. 183). They discuss how the inclusion of these covariates allows the researchers to estimate the results solely using within-group variation by employing group-mean centering. For a multilevel data set containing multiple observations over time for each student, within-group analysis would only examine variation over time for the same student.

Introduction to Econometrics

Econometricians refer to their multilevel models as panel models, probably because they focus primarily on panel data sets that contain multiple observations over time for the same unit. When educational examples are provided in textbooks, schools or states are typically the unit of analysis, and the explanatory variables of interest are time varying. The structure of the examples reflects a heavy emphasis on the second benefit of multilevel data featured in our conceptual framework. In other words, econometrics stresses how multilevel data provide an opportunity to estimate

level-1 coefficients solely using within-group variation, solely using between-group variation, or using a combination of the two. More specifically, it concentrates on how the within-group estimator can advance causal inference in many studies.

Unlike HLM, econometric multilevel models are usually presented within a single equation:

$$Y_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 W_j + \alpha_j + \mu_{ij}. \quad (9)$$

As in the first HLM presented, i represents the individual observations and j represents the groups in which these observations are nested. This equation allows the intercept to vary across groups by including α_j , but does not allow the slope coefficient to vary across groups. Econometricians have developed a model that allows the slope coefficients to vary, but this model, which is called a random coefficients model, receives very little attention in most econometric textbooks and the literature.

Although a large number of econometric models can be applied to multi-level data, two models are typically featured. The fixed-effects model solely uses within-group variation to estimate results, while the random-effects model uses a combination of within-group and between-group variations. Like Raudenbush and Bryk (2002), econometrics books generally recommend the use of the within-group estimator (i.e., the fixed-effects model) when examining explanatory variables at level one. Formally, they state that one should use only the random-effects model whenever $\text{Cov}(X_{ij}, \alpha_j) = 0$. Wooldridge (2009) notes that this scenario “should be considered the exception rather than the rule” (p. 493). As Zhang (2010) explains, a formal test exists for choosing between the fixed-effects and random-effects models.

To illuminate the points just made, we will use a research example featured in Zhang (2010), a recent handbook chapter that examined econometric models in greater detail. This example considers the impact of non-resident tuition on non-resident enrollment using institution-level data that contain observations for multiple years for each institution. In this case, X_{ij} represents non-resident tuition and α_j represents other factors that help explain an institution’s non-resident enrollment. Zhang (2010) notes that institutional prestige, geographical location, academic programs, and other factors would be included in α_j . One could theoretically remove these factors from α_j by including them as control variables in the regression, but the researcher is unlikely to have sound measures of these constructs that fully capture their influence on non-resident enrollment. As a result, at least part of their influence will remain in α_j . Within the econometric framework, the key question is whether $\text{Cov}(X_{ij}, \alpha_j) = 0$. If the answer is “yes,” the random-effects estimator is preferred, because it is more efficient than the fixed-effects estimator. As Zhang (2010) notes, however, the answer is likely to be “no.” Institutions that are prestigious and located in attractive geographical locations are likely to charge different non-resident tuition levels than are institutions without these traits.

Consequently, the fixed-effects estimator is recommended because the use of within-group variation will implicitly control for those elements of prestige and geography that are constant over the period of study.

The fixed effects estimator isolates within-group variation by group-mean centering each element of equation (9).⁹ This transformation eliminates α_j because the group-mean of α_j is $\bar{\alpha}_j$. The same process eliminates any group-level explanatory variables (W_j). What remains results in the following equation:

$$(Y_{ij} - \bar{Y}_j) = \beta_1(X_{ij} - \bar{X}_j) + (\mu_{ij} - \bar{\mu}_j). \quad (10)$$

This model no longer requires X_{ij} and α_j to be uncorrelated because α_j has been removed as a source of variation.

The random-effects model is typically represented by a similar yet more complex model:

$$(Y_{ij} - \lambda \bar{Y}_j) = \beta_0(1 - \lambda) + \beta_1(X_{ij} - \lambda \bar{X}_j) + \beta_2(1 - \lambda)W_j + (v_{ij} - \lambda \bar{v}_j). \quad (11)$$

In this equation, $v_{ij} = (\alpha_j + u_{ij})$ and λ represents a complicated formula. When the unexplained variation within groups (u_{ij}) is relatively large, then λ will be close to 0. When the unexplained variation across groups (α_j) is relatively large, then λ will be close to 1. This technical detail helps one interpret the results of the random-effects model. As we noted in our conceptual framework, the coefficient from the random-effects model will fall somewhere between the coefficients from the pooled OLS and fixed effects models. This relationship becomes clearer when one realizes that equation (11) becomes identical to the pooled OLS model when λ equals 0 and identical to the fixed-effects model (equation 10) when λ equals 1.

Although the fixed-effects model is recommended in most circumstances, econometric texts also highlight several limitations of this model. One cannot examine group-level explanatory variables (W_j) using the fixed effects model because only within-group variation is used. Examination of individual-level explanatory variables (X_{it}) can sometimes be complicated by measurement error (Ashenfelter & Krueger, 1994; Griliches, 1979). In some settings, measurement error can comprise a major share of the within-group variation in X_{it} , which can lead to substantial coefficient bias.

Although most econometric texts focus on panel data sets that contain multiple observations over time for the same unit of analysis, the fixed-effects and random-effects models can also be applied to other types of multilevel data. Econometric

⁹One can also think of the fixed-effects model as adding a dummy variable for each group. From this perspective, we are employing a fixed-effects model whenever we add dummy variables for any classification in which each observation is in one, but no more than one, category. Older versions of the Carnegie classification would be a good example from higher education research. For a multilevel data set with a large number of groups, the addition of dummy variables for each group creates computational challenges, which is why equation (10) is used instead.

textbooks recognize these other data types, but pay them relatively little attention. For example, Wooldridge (2009) devotes only two pages to the subject.¹⁰ Matched pair samples are typically featured, and special attention is placed on data sets where siblings are nested within families. Within-group analysis of these data allows the researcher to control for unobserved “family effects.” Cluster samples, where each observation belongs to a well-defined group, do receive some attention for their ability to control for unobserved “cluster effects.” Most multi-level studies within higher education use cluster samples where students or faculty are nested within higher education institutions or units (e.g., students) within an institution.

When discussing multilevel data, econometrics textbooks clearly concentrate on the second benefit featured in our conceptual framework. Some books do not even recognize the third and fourth benefit, while other books only briefly note them. Wooldridge (2009) devotes two paragraphs to these two benefits, noting that we could study the distribution of α_j 's or that we could study estimates for particular groups, but he essentially concludes that “the sense in which the α_j can be estimated is generally weak” (p. 486). His pessimism may partially reflect his focus on data structures that typically contain a small number of observations per group. As noted earlier, econometrics does contain a random coefficient model that allows β_1 to vary across groups, but this model rarely receives substantial coverage in texts (see Zhang, 2010, for an accessible introduction to this model).

Zhang (2010) covers several other relevant econometric models. The most prominent is the “difference-in-differences” (DD) model, which for panel data examines how changes in the outcome for the treatment group differ from the changes in the outcome for the control group during a period in which the treatment was instituted (Meyer, 1995). This estimator essentially examines how differences within groups over time differ across groups, so its core structure could be described as multilevel. In terms of causal inference, the DD estimator is similar to the within-group estimator in that it assumes that within-group differences in the explanatory variable are unrelated to within-group differences in the error term. In many ways, however, the multilevel structure of the DD model is fundamentally different than the other multilevel structures we discuss. For example, the DD model typically contains a very small number of groups. In some applications, just one treatment group and one control group are examined. This chapter primarily focuses on multilevel data structures containing large number of groups, so even though the DD model is an important part of econometrics, we do not cover it in depth here.

¹⁰The coverage of other multilevel data structures is slightly larger in more advanced econometric textbooks, such as Wooldridge (2002). These books, however, still place a much larger emphasis on panel data. Individual journal articles, such as Moulton (1990) and Wooldridge (2003), focus on cluster samples in much more depth. These articles as well as advanced econometrics textbooks assume a strong existing knowledge base in econometrics and mathematics, so their usefulness will vary considerably across researchers.

Comparing Econometric Model and HLM

The previous sections demonstrate core similarities between econometrics and HLM when employing multilevel data. Both traditions contain models that allow a researcher to reap the multiple benefits of multilevel data featured in our conceptual framework. Furthermore, the most often employed models within each tradition are very similar. Consider the random-intercepts model within HLM, which fixes the slope coefficient as follows:

$$\text{Level-1 model } Y_{ij} = \beta_{0j} + \beta_{1j}X_{ij} + e_{ij}, \quad (12)$$

$$\text{Level-2 model } \beta_{0j} = \gamma_{00} + \gamma_{01}W_j + u_{0j}, \quad (13)$$

$$\beta_{1j} = \gamma_{10}. \quad (14)$$

With group-mean centering, this model is extremely similar to the econometric fixed-effects model. With grand-mean or no centering, the econometric random-effects model is its counterpart. Cheslock and Rios-Aguilar (2008) found that most HLM papers in higher education journals employed some version of this random-intercept model and all econometric papers employed the fixed-effects or random-effects model.

HLM and econometric texts often provide similar advice. When seeking to describe the overall relationship between an explanatory variable(s) (X_{ij}) and an outcome (Y_{ij}), both traditions recommend the within-group estimator for most studies. They both suggest examining the variation in β_{1j} when one believes the level-1 relationships vary across groups, and each tradition recommends the use of cluster data, panel data, and other forms of multilevel data. The difference between HLM and econometrics lies in the emphasis placed upon particular pieces of advice. Most HLM texts pay relatively little attention to the virtues of the within-group estimator, while most econometric texts devote even less attention to the benefits of studying heterogeneity across groups. Cluster data examples are featured within HLM, while panel data examples are primarily used within econometrics.

The advanced methodologist may not be influenced by these differences in emphasis, but most applied researchers will gain a deeper appreciation of these benefits when illustrated by examples and insightful extended discussions. Once such an understanding is developed by researchers, it may well alter the topics, designs, and models they employ. HLM-trained researchers will disproportionately employ cluster data in studies that seek to study heterogeneity across groups, while econometric-trained researchers will disproportionately use panel data to answer causal questions about the overall relationship between X_{ij} and Y_{ij} . When HLM-trained researchers employ panel data, they will disproportionately examine the specific model featured within their tradition. In other words, they will study the growth trajectory of Y_{ij} and only examine the influence of explanatory variables that do not vary over time (X_i). In contrast, econometric-trained scholars will tend to

utilize panel data to study simple changes in Y_{ij} and the influence of time-varying explanatory variables (X_{ij}).

Mainstream higher education researchers are not doomed to this fate. A deep understanding of the benefits emphasized in both traditions would allow them to focus on the data structure and benefit most helpful for the particular study at hand. Whether HLM or econometric models are employed is often not the major issue. These benefits can be realized within both traditions.

That said, some real differences do exist across traditions. Some differences relate to minor technical issues that will rarely change, in a significant way, the results of a study. For example, the random-effects model within econometrics is usually estimated using generalized least squares, while the basic random-intercept model within HLM is usually estimated using both maximum likelihood (ML) and generalized least squares (GLS). By default, the HLM software (version 6) estimates the variance-covariance components via ML, and the parameters are estimated using GLS (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2004).

More substantial differences exist between the advanced models within HLM and econometrics, and these differences often reflect the emphasis within each tradition. One area of advanced work within econometrics focuses on how to continue to promote causal inference when the assumptions of the fixed-effects and random-effects models no longer hold. We present the basic structure of these models again, with the new version including a coefficient (δ) in front of α_j to highlight the effect of unobserved group-level factors on the outcome of interest:

$$Y_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 W_j + \delta \alpha_j + \mu_{ij}. \quad (15)$$

The basic fixed-effects model assumes that β_1 does not vary across i , δ does not vary across i , and α_j is not a function of \bar{X}_j . These assumptions often do not hold, especially in studies employing panel data, and advanced econometric models add extensions that require fewer assumptions but increase the complexity of the estimation procedure (Chamberlain, 1982, 1984; Mundlack, 1978a, 1978b).

Advanced HLM-based models are more likely than advanced econometrics to focus on estimating valid results for individual groups or estimating how group-specific results vary across groups or group characteristics. This goal is often complicated by data sets that contain a relatively small number of groups, a relatively small number of observations per group, relatively little variation within groups for some explanatory variables, or other limitations. Advanced techniques can help researchers produce more valid analysis of heterogeneity across groups when facing these sorts of data challenges (Gelman & Little, 1997; Kenny, Mannetti, Pierro, Livi, & Kashy, 2002; Snijders, 2005).

These advanced models, however, are not the focus of this chapter. Instead, our interest lies in the most basic models, which are quite similar across traditions. These similarities are difficult to perceive due to differences in notation, model presentation, and terminology. The notation differences are the least substantial, but

they likely cause initial confusion. The primary examples in an HLM book use cluster data, where subscript i denotes the individual observations nested within group j . Econometric books use panel data examples, where subscript i represents the unit within which individual observations over time are nested. To demonstrate the similarities across traditions, we presented the econometric models using the notation employed in HLM for cluster data.

These two traditions also differ substantially in the equations used to represent similar models. HLM are presented in multiple equations, while the econometric version presents the model within one equation. Once one combines the multiple HLM equations into one equation, the similarities between HLM and econometrics become more transparent, but some researchers may not be able to undertake these transformations. The equations representing the within-group estimator differ in even more confusing ways. The econometric version is produced by subtracting group means from all variables in the model, while the HLM version group-mean centers the explanatory variables but not the dependent variable(s). The resulting equations appear to be fundamentally different, and very few applied researchers would realize that despite the differences in centering, they both use only within-group variation to estimate results.

Terminology differences are probably the most annoying, especially in the case of random-effects and fixed-effects. In econometrics, these terms originally referred to whether α_j was a random variable or a parameter to be estimated, but they are now primarily used to describe the basic models discussed in this chapter. Within HLM, the terms do not describe overall models, but they instead represent specific elements within models. Random effects are the error terms associated with the coefficient estimates. In contrast, fixed effects represent the non-random parts of these coefficients. When a researcher “fixes” level-1 coefficients, they are not allowing level-1 coefficients to vary across level-2 groups. The confusion created by the varying terminology is perhaps best represented by the following relationship: When a researcher “fixes” all level-1 slope coefficients in HLM without group-mean centering, they create a HLM that is essentially identical to the random-effects model in econometrics.

Examples from the Literature

We turn now to past articles that employed multilevel data in a manner that helped the authors achieve the core objectives of their study. We will organize our review of these articles around the four benefits of multilevel analysis discussed earlier. As before, we spend little time on the first benefit, improved standard error estimates, as this benefit is ubiquitous and easy to obtain. We focus instead on the latter three benefits and seek papers whose primary contribution to knowledge would not have occurred without advanced multilevel analysis. The first subsection concentrates on papers that reaped the second benefit featured earlier in this chapter, and the second subsection focuses on the third benefit. We close this section by discussing a paper that realizes the fourth benefit as well as the other three.

For each paper, we will discuss the research questions, the limited insights that standard analysis can provide into the answers to these questions, the deeper insights that multilevel analysis can provide, and how the authors employed multilevel models to reveal these deeper insights. Numerous details about each paper are omitted so that our discussion focuses on the basic intuition that explains how deeper insights are produced by multilevel analysis. For each paper, we try to discuss how these insights are vital, given the goals of the study.

Papers Realizing Benefit #2: The Opportunity to Estimate Level-1 Coefficients Solely Using Within-Group Variation, Solely Using Between-Group Variation, or Using a Combination of the Two

Unsurprisingly, most econometric-based higher education papers followed the lead of econometric texts and focused on the second benefit of multilevel analysis.¹¹ These papers employed the within-group estimator to implicitly control for unobserved group-level variables. Panel data were used primarily and causal questions were mostly investigated. Of course, the within-group estimator also aids analysis of other data structures and helps answer research questions that investigate descriptive or associational relationships. To demonstrate this point, we will examine one panel data example (Archibald & Feldman, 2006), one cluster data example (Goldhaber & Brewer, 1997), and one matched-group data example (Dale & Krueger, 2002). While all three examples consider causal questions, our description of Gelman, Shor, Bafumi, and Park (2007) in a later section will demonstrate how one can skillfully use between-group and within-group variations to describe non-causal relationships.

Archibald and Feldman (2006) use panel data to examine how state laws and constitutional provisions that alter state taxing and spending policies influence state appropriations. These laws and provisions were motivated by a desire to restrain state spending, and such restraints could limit the amount of state dollars that flow to higher education institutions. Archibald and Feldman (2006) focus on two particular types of restraints: tax and expenditure limitations (TELs) and supermajority requirements (SMRs). Since the late 1970s, 23 states adopted a TEL and 13 states added an SMR.

One could examine the impact of TELs and SMRs on state appropriation for higher education by using state-level data for a recent year. Such cross-sectional analysis would solely use between-state variation in the given year to identify the results. In other words, the average state appropriation effort for states with a TEL would be compared with the average effort for states without a TEL. Would such

¹¹There are some prominent econometric papers, however, that focus on our third benefit of multilevel data. For example, Rivkin et al. (2005) used a data set containing students nested within teachers to estimate the variation in student test scores across teachers.

an analysis be valid? Archibald and Feldman (2006) clearly want to estimate a relationship that can be interpreted as a causal relationship between appropriations and TELs/SMRs. The implicit goal of their study is to understand the distinct role played by these laws and to predict the future impact on higher education if more states add these types of spending restraints. Can cross-sectional analysis of one year of data produce a causal result?

The answer will likely be “no.” States that instituted TELs and SMRs may disproportionately possess citizens who prefer a smaller state government, and these states would have spent less on higher education even if formal spending restraints were never instituted. In this scenario, the cross-sectional results will be biased downward and could reveal a negative relationship even if there was no causal relationship. Alternatively, states with TELs and SMRs may have a history of extensive government spending, and these spending restraints may have been instituted to moderate this tendency. In this case, the cross-sectional results will be biased upward and could reveal a positive relationship even if TELs and SMRs cause state appropriation effort to decline.

To address this problem, Archibald and Feldman (2006) use state-level panel data that span a 40-year period (1961–2001) and employ an econometric fixed-effects regression so that only within-group variation identifies the results. For this panel sample, the state is the group and the specific measurements for a year are the observations nested within the group. To use only within-group variation is to use only variation over time within states. So, the regression results are essentially produced by comparing higher education funding levels in states after they added a TEL or an SMR with the funding levels in those states before the spending restraint was instituted. This comparison becomes more complex when you add controls for other determinants of appropriation effort and you adjust for timing differences across states in the adoption of TELs/SMRs. The core intuition, however, remains even after these complexities are added.

Statistical controls and timing considerations can be easily incorporated into a multilevel model framework. Within econometrics, one can add these considerations to the basic fixed effects model by estimating either of the following equations:

$$Y_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 M_{ij} + \beta_3 W_j + \alpha_j + \mu_{ij}, \quad (16)$$

$$(Y_{ij} - \bar{Y}_j) = \beta_1 (X_{ij} - \bar{X}_j) + \beta_2 (M_{ij} - \bar{M}_j) + (\mu_{ij} - \bar{\mu}_j). \quad (17)$$

For this model, subscript j represents the state and subscript i represents the particular year in which variables are measured for that state. This model assumes one primary explanatory variable (X_{ij}), one time-variant control variable (M_{ij}), and one time-invariant control variable (W_j).

In practice, Archibald and Feldman (2006) estimate an even more elaborate model because they also include time fixed-effects:

$$Y_{ij} = \beta_0 + \beta_1 X_{ij} + \beta_2 M_{ij} + \beta_3 W_j + \alpha_j + \gamma_i + \mu_{ij}. \quad (18)$$

The inclusion of time fixed-effects (γ_i) means that controls will be added for factors common to all states that impact the state appropriation effort in a given year. These controls cause the effort for a particular state in a particular year to be effectively measured relative to other states for that year. So, the regression results will be produced essentially by comparing *relative* state appropriation effort in states after they added a TEL or an SMR with the *relative* efforts in those states before the spending restraint was instituted. Time fixed-effects are vital when the explanatory variable (X_{ij}) of interest is correlated with key unobserved factors that vary over time and are common to all states. Archibald and Feldman (2006) faced this scenario because, as states added TELs and SMRs over time, other forces that shape state higher education funding were also changing.

The estimation of equation (18) could, however, still produce a biased result. For example, states that added a TEL/SMR could experience other state-specific changes that impact state higher education funding and occur around the time that TELs/SMRs were instituted. If sufficient controls are not included to account for these state-specific changes, the estimated effect of TELs/SMRs will not represent the causal effect. These scenarios for bias, however, are much less plausible than the concerns that arise when employing cross-sectional analysis. All techniques for estimating a causal effect require some assumptions, and the goal of researchers is to make the assumptions as reasonable as possible and to replicate results across a number of different assumptions and data sets to check the robustness of one's findings.

In estimating equation (18), Archibald and Feldman (2006) found that both TELs and SMRs lead to substantial declines in state appropriation effort for higher education. The authors could have estimated similar results using the HLM framework. If they had employed a group-mean centered random-intercept model, the within-group estimator would still have been produced.

Goldhaber and Brewer (1997) use a cluster data set rather than a panel, but they face similar estimation challenges. They use a data set containing students nested within schools to examine the impact of numerous student, teacher, and school variables on tenth-grade mathematics achievement test scores. Results from eighth-grade mathematics exams are included as a control variable, so the estimation method seeks to measure the “value-added” between the eighth and tenth grades. While the authors examine a wide range of explanatory variables, measures of the experience, certification, and education of mathematics teachers receive primary attention.

The authors could simply estimate the impact of these teacher characteristics by using an OLS regression, but the OLS coefficient, which is a weighted combination of the between-group and within-group relationships, typically produces little insight by itself. The covariation between a school’s average test scores and the average characteristics of the school’s mathematics teachers represents the between-group relationship. The within-group relationship is estimated by examining how mathematics achievement varies across students at the same school who have teachers with different levels of experience, certification, or education.

Do Goldhaber and Brewer (1997) want to measure the between-group relationship, the within-group relationship, or a weighted combination of the two? To answer this question, one needs to examine the purpose of their paper. The authors are primarily interested in the causal effect of teacher characteristics, as they wish to understand whether future increases in the level of teacher certification and education would produce learning gains. In their methodology section, they discuss threats caused by omitted variables that are determinants of mathematical achievement and correlated with teacher characteristics. Many of these omitted variables are at the school level. Schools differ in resources, average unobserved student traits, and average unobserved teacher traits. The standard notion of a wealthy suburban school that enrolls well-prepared students, attracts motivated and skilled teachers, and has ample resources to offer numerous programs illustrates this point. If teachers with strong credentials and extensive education disproportionately work within these schools, we would find a positive relationship between these teacher characteristics and test scores even if no true causal relationship existed.

The within-school estimator would implicitly control for these school-level differences by only examining the variation in mathematics achievement across students who attend the same school. Of course, this estimator could still be subject to bias. What if schools disproportionately assigned teachers with greater credentials, experience, and education to those classes within the school that contain students who would perform well under any teacher? This staffing pattern could again produce an upward bias and possibly produce a positive relationship even if no true causal relationship existed.

This discussion reveals how different estimators face very different internal validity threats. The within-group estimator requires assumptions regarding the distribution of teachers across classes within a school, while the between-group estimator requires assumptions regarding the distributions of teachers across schools. Because an OLS regression uses both types of variation, that approach requires both sets of assumptions.

Goldhaber and Brewer (1997) estimate OLS, econometric random-effects, and econometric fixed-effects models, and their results do not vary substantially across these approaches. They could have produced similar results using related HLM. Interestingly, their interpretation of the results as well as the motivation for their methodological choices would likely have differed if they worked within a different tradition. For example, organizational sociology highlights other differences between the within-group and between-group estimators as they emphasize Cronbach's (1976) point that "the aggregate variable represents a very different construct than the individual-level variable" (p. 20). At the individual level, the education of an individual teacher could impact the students within his/her classroom due to changes instituted by that teacher. At the aggregate level, the average education of a school's teachers could impact the culture and norms within the entire school, which could then affect all students within that school. By going within, aggregate-level considerations are eliminated, and the results do not capture the indirect effects of teacher's education on student's academic performance through

altered culture and norms within a school. This point is rarely emphasized within economic frameworks but receives prominent attention within sociology.

Archibald and Feldman (2006) and Goldhaber and Brewer (1997) represent fairly conventional approaches to the within-group estimator and demonstrate the utilization of that estimator for panel and cluster samples. In both cases, the groups were formed naturally by linking individual observations to states or linking students to schools. In contrast, Dale and Krueger (2002) formed a data set where students were grouped by the set of colleges that accepted and/or rejected them. A student who was rejected by school A and accepted by school B would be joined by all other students who were both rejected by schools with a selectivity level similar to school A and accepted by schools whose selectivity was similar to school B. For this matched-applicant sample, the multilevel data structure was created artificially by the researchers to control for unobserved student traits.

Dale and Krueger (2002) employ this grouping pattern to study how attendance at a selective higher education institution impacts future earnings. Students with strong pre-college academic preparation and high socioeconomic status (SES) disproportionately attend more selective institutions. Because academic preparation and SES also impact future salaries, conventional analysis will produce biased estimates if one insufficiently controls for these student traits. Unfortunately, observable measures would only partially capture these traits. Dale and Krueger's insight is straightforward: Because admissions committees are able to observe more extensive information about each student than researchers can, the decisions of these committees can provide additional information regarding a student's academic preparation. By grouping students based on the decisions of admissions committees, one can partially control for the additional information available to committees through the use of the within-group estimator. When producing results, this estimator will only compare students who were accepted and rejected by a comparable set of colleges.

For standard multilevel structures such as the case of students nested within schools, the researcher can easily assign individual observations into groups. For studies such as Dale and Krueger (2002), assignment is more complicated. Which colleges are comparable in terms of selectivity? The authors decided to match applicants by the average SAT score (within 25-point intervals) of each school at which they were accepted or rejected, but this choice was somewhat arbitrary, so they also ran analysis using several other definitions of comparable selectivity to ensure that their findings were robust. These complications highlight the creative manner in which Dale and Krueger created their multilevel data structure. They formed groups so that membership contained key information that observable measures of the student did not contain. In other words, Dale and Krueger did not realize they had a multilevel data structure and then try to exploit it to advance their study. Instead, they determined what multilevel data structure would best advance their study, they developed a way to create that data structure, and then they exploited that structure.

As in the earlier papers, Dale and Krueger (2002) still need to make substantial assumptions to interpret the within-group estimator in a causal manner. They must

assume that, for students who were accepted and rejected at comparable colleges, the variation in enrollment decisions is uncorrelated with other factors that determine future earnings. In other words, students in the same matched-applicant groups who attended institutions with different levels of selectivity cannot systematically differ in unobserved traits that determine future earnings.

Unlike Goldhaber and Brewer (1997), Dale and Krueger found that the within-group estimator produced drastically different results than that produced by the OLS estimator. The OLS model indicated that students who attended a school with a 100-point higher average SAT score earned about 8% boost in future earnings. In contrast, the within-group estimator produced results that essentially were equal to zero. Because the OLS estimator is a blend of the between-group and the within-group estimators, the difference in results suggests that the between-group variation was driving the OLS result. In this case, the between-group estimator compares students who were accepted and/or rejected at very different sets of institutions. For example, it would compare students accepted at Harvard with students who were rejected at or who never even applied to Harvard.

The three journal articles reviewed to this point clearly demonstrate how advanced analysis of multilevel data can provide more robust estimates of the relationship between individual-level explanatory variables and outcomes. OLS results are typically not informative because they contain a weighted combination of the between-group and within-group relationships. A separate description of each type of variation usually produces more insight. In studies seeking a causal estimate, the within-group estimator is of special interest because it allows the researcher to control for unobserved group-level variables. The value of this estimator depends upon the particulars of the study. As we have demonstrated, the plausibility of assumptions required to rule out internal validity threats varies across studies for each estimator. Multilevel analysis advances causal inference most when the within-group estimator requires more reasonable assumptions than do conventional approaches.

Our examples demonstrated that the assumptions required to support the within-group estimator were still fairly strong, which demonstrates that multilevel analysis is often not a panacea. Alternative methods, such as experimental design, regression discontinuity, or instrumental variables, often rely upon assumptions that are more realistic.¹² These alternative approaches, however, are not available for many research questions within higher education, and, even when they are, they can seriously compromise external validity in pursuit of internal validity.

These considerations are especially relevant for institutional researchers. These researchers typically cannot randomly assign the treatment or exposure of interest,

¹²Some papers that use alternative multilevel structures may also possess more realistic assumptions than the three papers we reviewed. As noted earlier in the chapter, difference-in-differences models can produce compelling results in certain contexts (Dynarski, 2000; Cornwell, Mustard, & Sridhar, 2006). Analysis of within-family differences can also be convincing, because siblings possess a number of shared traits and experiences (Ashenfelter & Rouse, 1998). Both difference-in-differences models and sibling studies are very common in economics.

and they rarely get to observe natural experiments at their institution where part of the assignment was random and could be analyzed using the regression discontinuity or the instrumental variable framework. Furthermore, institutional researchers are often constrained by time considerations, and multilevel analysis, which can be instituted relatively easily, is often the most promising option for advanced inquiry.

Papers Realizing Benefit #3: Examination of Whether and to What Extent Key Level-1 Coefficients Vary Across Groups and Group Characteristics

While examining educational phenomena, researchers must recognize the “power of contexts” and the “ubiquity of interactions” that are present (Berliner, 2002, p. 19). Multilevel data allow researchers to model variation across groups through the use of cross-level interactions. Such interactions can test whether group characteristics moderate—increase or diminish—the strength of the individual-level relationships. In this section, we present three illustrative examples of studies that take advantage of this feature of multilevel analysis to provide more insightful and relevant findings. Our collection of papers includes a classic example (Raudenbush & Bryk, 1986), a recent study of K-12 education (Langenkamp, 2010), and an example from higher education (Umbach, 2007).

Raudenbush and Bryk’s (1986) study of the relationship between a student’s SES and her mathematics achievement is well known, because they use this example in their subsequent books to demonstrate many of the key insights they reveal (Bryk & Raudenbush, 1992; Raudenbush & Bryk, 2002). Furthermore, they investigate important topics: How do schools differ in average mathematics achievement? Does the SES–achievement relationship vary across schools? Do average achievement and the SES–achievement relationship vary across specific school characteristics? These questions seek to understand how the relationship between SES and mathematics achievement intersects with the multilevel structure of education where students are nested within schools.

Multilevel analysis is vital, because the overall SES–achievement relationship may contain little information. If the SES–achievement relationship varies substantially across schools, then we cannot use overall results to describe the situation at individual schools. Furthermore, we cannot identify the specific features of educational institutions that contribute to a stronger or a weaker SES–achievement relationship. To properly craft policy, we need to understand which schools or school characteristics have more equitable levels of student achievement.

Although numerous features of educational institutions (e.g., composition, size, and location) could alter the distribution of achievement among their students, Raudenbush and Bryk (1986) concentrate on two school characteristics: sector (public vs. Catholic) and average SES level. Before examining the impact of these characteristics, they first test whether the individual-level coefficients vary across groups. In other words, they estimate the following model:

$$Y_{ij} = \beta_{0j} + \beta_{1j}(X_{ij} - \bar{X}) + e_{ij}, \quad (19)$$

$$\beta_{0j} = \gamma_{00} + u_{0j}, \quad (20)$$

$$\beta_{1j} = \gamma_{10} + u_{1j}. \quad (21)$$

Their results clearly indicate that $\text{Var}(\beta_{0j}) \neq 0$ and $\text{Var}(\beta_{1j}) \neq 0$, which imply that average achievement (represented by β_{0j}) and the SES–achievement relationships (represented by β_{1j}) vary across schools.

They then seek to explain this variation. They add a variable measuring the amount of time spent on homework to equation (19) and they add a sector variable, an average SES-level variable, and the interaction between the two to equations (20) and (21). Their results for β_{1j} indicate that the SES–achievement relationship is weaker at Catholic schools relative to public schools and is stronger at high-SES schools than at lower SES schools. In other words, the gap in achievement between high-SES and low-SES students is smaller at private Catholic schools and at schools whose students have lower average SES levels.

Langenkamp (2010) examines the academic performance of students as they transition from middle school to high school. This stage of the educational process often contains risk, because students must renegotiate their relationships with both teachers and peers. Previous research showed that transitions can lead to declines in academic performance, especially for those at risk academically prior to the transition.

Langenkamp's primary contribution is to examine whether the transition from middle school to high school depends upon the context of the school district. She views the feeder pattern used to assign middle-school students to high schools as the most important contextual element. In a “uniform” district context, one middle-school cohort feeds into one high school. In a “mixed” district context, many middle-school cohorts feed into a high school. The degree to which students must renegotiate relationships varies drastically across these two contexts. In mixed school districts, a student's existing social ties are reconfigured and the opportunities for new social ties are created.

Students at the same school may experience the transition to high school differently, and the extent of these differences may vary by school district context. Previous research established that academically vulnerable students will find it more difficult to navigate the transition, but we do not know whether this problem is more or less severe in mixed school districts. Academically vulnerable students may find it even more difficult to transition in a mixed context, because the need to renegotiate social relationships may distract them from their studies and cause them to fall further behind. Alternatively, the changing environment may disrupt problematic social relationships that were limiting past academic performance.

Multilevel analysis allows one to elegantly test these competing hypotheses. Langenkamp (2010) uses cross-level interactions to examine whether the feeder pattern of a school district alters the relationship between low middle-school achievement and early high-school academic performance. She also includes interactions

that allow the impact of middle-school popularity and teacher bonding to vary across feeder systems. Two measures of early high-school academic performance, low math course placement and first-year course failure, are used as outcomes that capture academic struggles that occur during the transition to high school.

While many of her cross-level interactions were not statistically significant, Langenkamp (2010) did find that students with low achievement in middle school were less likely to fail initial high-school coursework when residing in a mixed school district. Specifically, she found “that among low-achieving middle school students, the probability of course failure is almost 0.50 for students in a uniform context, whereas those in a mixed context have a predicted failure rate of only 0.20” (p. 12). One potential explanation for these results is that low-achieving students benefit greatly from the opportunity for new relationships among incoming student cohorts. These results are useful for policy considerations, but they also help us understand more deeply the role of social relationships in determining academic performance, which was the core phenomenon under study.

Umbach (2007) examines how faculty engagement in good practices varies by the appointment status of the faculty member. Part-time and full-time non-tenure-track faculty are growing in importance within higher education, and we consequently need to understand how these contingent faculty differ from tenured/tenure-track faculty in their teaching practices. Umbach studies good practices related to faculty–student interactions, course preparation, and teaching techniques that past research has linked to increases in student learning.

The performance of contingent faculty relative to their tenured/tenure-track counterparts may vary substantially across higher education institutions. In some contexts, contingent faculty face a welcoming culture and are provided with key resources, such as office space and training that can lead to better instruction. In other settings, however, important resources and support are not provided. Because Umbach (2007) is interested in the *relative* performance of contingent faculty, the performance of tenured/track-track faculty, which also varies substantially across institutions, is another important consideration. In combination, these points suggest we may be less interested in estimating an overall contingent effect than in identifying a number of context-specific contingent effects.

Umbach considers a wide range of institutional characteristics when seeking to explain variation in the contingent effect. That list includes an institution’s contingent faculty share, location, Carnegie classification, control, selectivity, and size. Each of these variables could capture important differences across institutions that impact the relative performance of contingent faculty. For example, as the proportion of contingent faculty grows on a campus, elements of culture and policy that impact contingent faculty performance could be altered. The importance of research to the institution’s mission could also have an effect. Tenure-track faculty could be more consumed by research, so contingent faculty, who can focus more heavily on teaching, may perform relatively well at research universities. Alternatively, contingent performance could suffer if the culture of research universities is less welcoming and supportive of non-tenure-track faculty.

To examine these possibilities, Umbach (2007) employed a HLM-based model that allowed the slope coefficient for part-time faculty to vary across institutions and institutional characteristics. Surprisingly, this coefficient did not vary across institutions for most outcomes; the only exception was non-class-related interactions. For this practice, Umbach found substantial differences across Carnegie classifications. Relative to their tenure-track/tenured counterparts, part-time faculty were least likely to engage in non-class-related interactions when teaching at doctoral and master's universities.

In each of the three articles reviewed, the level-1 relationship under study is only partially illuminated by an overall result. Much deeper insights can be obtained through multilevel analysis of how this relationship varies across groups and the characteristics of those groups. Theoretical propositions can be refined, because individual theories predict that level-1 relationships and group characteristics covary in specific ways. Multilevel analysis can also aid policy development, as findings can inform efforts to optimally match policies with the specific context of individual schools.

Papers Realizing All Four Benefits

Our final example is notable for three reasons. First, Gelman et al. (2007) presented numerous level-1 coefficients for specific groups in their sample. In other words, they reaped the fourth benefit of multilevel analysis. We rarely came across papers, especially in higher education research, that used multilevel data in this manner. Second, Gelman et al. (2007) also realized the other three benefits of multilevel analysis. We did not find another paper that examined multilevel data in such a comprehensive fashion. Finally, Gelman et al. (2007) used both the between-group estimator and the within-group estimator to describe overall relationships, but they were not seeking to describe a purely causal relationship. Most analysis of within-group variation fixates on causal questions, but use of this variation, especially alongside analysis of between-group variation, can also advance associational or descriptive studies.

Gelman et al. (2007) examined the relationship between voting patterns and income.

Since the 2000 US presidential election, we have used the terms red state and blue state, where red states vote Republican and typically have lower average incomes, while blue states vote Democratic and typically have higher average incomes. After recent presidential elections, county-level analyses were also conducted, and the results identified many wealthy counties that voted Democratic and many lower income counties that voted Republican. This national-level and county-level analysis contradicts long-held beliefs that portrayed the Democrats as the party of the poor and Republicans as the party of the rich.

Gelman et al. (2007) used the within-group and between-group estimators to explain how this “apparent paradox is no paradox at all” (p. 365). By examining relationships at multiple levels, they demonstrated that voters are more likely to

support the Democrats when they live in richer states, but within any given state, richer voters are more likely to vote Republicans. The relationship between voting patterns and income depends upon whether you compare states or compare voters within states.

Multilevel analysis also allows one to examine whether the within-state relationship varies across states. Gelman et al. (2007) find substantial variation. A citizen's likelihood of voting Republican substantially increases with income in poor, rural, Republican-leaning states, but only slightly increases with income in rich, urban, Democratic-leaning states. The authors describe succinctly their finding: "In poor states, rich people are very different from poor people in their political preferences. But in rich states, they are not" (p. 365).

Most readers would be primarily interested in the overall relationship between income and voting patterns or how this relationship varies across state characteristics, but some may wish to observe estimates for a particular state of interest. The fourth benefit of multilevel analysis, producing results for a particular group even if the number of observations for that group is relatively small, allowed Gelman et al. (2007) to report estimates for all 50 states. The authors also used state-specific findings to help demonstrate national voting patterns. By graphing state-specific results for a low-income red state (Mississippi), a middle-income purple state (Ohio), and a high-income blue state (Connecticut), the authors were able to communicate, in just one figure, their three major findings: (a) the between-state relationship is negative, (b) the within-state relationship is positive, and (c) the within-state relationship diminishes with the income of the state.

This paper does not seek to test whether income is *causing* support for Republicans, but the authors did investigate whether demographic measures of voters helped explain the correlation between income and voting patterns. When they dropped all African-American respondents from the sample, the impact of income fell by about half. But the basic pattern remained even when controls for other variables, such as gender, age, and education, were incorporated.

The multilevel analysis was the heart and soul of this paper, as conventional analysis would not have produced any of the major insights that were revealed. Gelman et al. (2007) were unusually comprehensive when exploiting the multilevel structure of voting patterns. They used a variety of multilevel analysis, from relatively simple models to models that allowed both intercepts and slope coefficients to vary across groups. They used these models to study the correlation between voting patterns and income from a variety of levels. The above text described a rich set of findings, and we still ignored several additional levels of analysis. For example, county-level estimates revealed that high-income counties were the most Republican in southern states and low-income counties were the most Republican in western states. Examination of separate time periods found that most of the main findings of the paper strengthened considerably over the last 15 years.

Our understanding of higher education would be deepened drastically if we also conducted analysis at all the levels that are available in the data used in a study. Students are nested within teachers who are nested within departments which are

nested within colleges which are nested within institutions. These institutions are then housed within sectors and states. When one also considers that multiple time periods can be examined at each of these levels, one realizes the extreme complexity that can be contained within any particular relationship in higher education, and also the detailed understanding that may be obtained when we exploit these sources of variation.

Conclusion

Past chapters in this handbook have discussed hierarchical linear models and econometric panel models separately (Ethington, 1997; Zhang, 2010). This chapter presented both traditions simultaneously and demonstrated a number of core similarities between them. At the same time, we explained why these core similarities are hard to detect. Varying notation, model presentation, and terminology create artificial differences that confuse readers. HLM and econometrics often utilize different data structures and realize different benefits of advanced multilevel analysis. Many researchers will focus on the aspects highlighted within each tradition and not realize that the basic econometric model and HLM can handle similar data structures and reap similar benefits.

The differences in these methodological traditions create substantial challenges for the field of higher education. If a researcher is trained solely in one tradition, he/she will often be at a disadvantage when trying to understand research using the other tradition. Scholarly communication is inhibited as a result. Scholars trained in econometrics may disproportionately employ panel data and seek to advance causal inference, whereas individuals trained in HLM may disproportionately employ cluster data and examine heterogeneity across groups.

Higher education researchers typically have more flexibility in their choice of methods than other academics because a variety of methodological approaches are accepted within the field. Consequently, one can borrow from the methodological tradition which can best advance the study at hand. The benefits of multidisciplinarity are not easily obtained, however. Producing deep insights into the world through the analysis of data is an arduous task, and working within an individual tradition simplifies the process. Each methodological tradition has a distinct approach ranging from terminology to the basic logic and goals underlying the analysis. A researcher seeking to engage multiple traditions may waste considerable time trying to learn and trying to decipher these differences, and this chapter is designed to minimize the time lost in that process.

As researchers develop a deep understanding of multilevel models, we hope they will begin to realize that for most mainstream studies the primary issue is not the choice of tradition. Instead, the challenge is to skillfully employ multilevel models to help one realize the core objectives of the study at hand and to answer questions such as: Which benefits allowed by the advanced analysis of multilevel data would best advance these objectives? Which data sets and models would best allow one to reap these selected benefits?

The choice of methodological tradition within which to work is often a much less important issue. For studies employing basic multilevel models the choice will often depend on practical considerations. For example, the focus within HLM on the study of heterogeneity across groups has resulted in a wide array of accessible computing options for HLM that allow slope coefficients to vary across groups.

In this chapter, we examined only the most basic models and topics pertaining to the analysis of multilevel data. Our approach promotes a deep understanding of core issues, but it does not introduce the reader to a number of important technical and advanced considerations. Ethington (1997) and Zhang (2010) discuss many of these topics, and available textbooks cover even more ground. In addition to Raudenbush and Bryk (2002), Snijders and Boskers (1999) and Heck and Thomas (2009) provide strong coverage of HLM-related issues. Wooldridge (2009) and Stock and Watson (2007) provide a good introduction to econometric panel models, while Baltagi (2008), Cameron and Trivedi (2005), and Wooldridge (2002) expose readers to advanced considerations.

Although higher education researchers almost always work within the HLM or econometric framework, more general approaches to multilevel data exist. Gelman and Hill (2007) incorporate features of both the HLM and econometric traditions, and a forthcoming book by Singer and Willet is also expected to provide broad coverage. The different perspective of these books often allows for new insights. For example, Gelman and Hill (2007) provide numerous examples of how advanced analysis of multilevel data allows one to estimate level-1 coefficients for a specific group even if the number of observations for that group is relatively small. Their focus leads to accessible and insightful explanations of how these level-1 coefficients are estimated in practice.

The benefits of multilevel models, while important, are limited. Quantitative higher education researchers consequently also need to master additional methodologies, and an understanding of the topics covered in this chapter can aid that process. Consider the goal of causal inference. Multilevel analysis is of limited help when the primary explanatory variable of interest is at the group level, when the variation within groups is inadequate or swamped by measurement error, or when the primary omitted variables of concern are at the individual level. In many settings, alternative techniques, such as the difference in differences, instrumental variables, and regression discontinuity models, may provide more convincing results.

These models are similar to the within-group estimator in that they use only a portion of the variation in the treatment or exposure, and the goal of the researcher is to find settings where that portion of the variation promotes internal validity. Once a researcher understands how to effectively select studies to maximize the benefits of the within-group estimator, he/she can easily learn how to employ these alternative techniques as well. As noted earlier, the difference-in-differences model essentially examines how differences within groups vary across groups, so an understanding of multilevel frameworks is especially helpful for this model.

Multiple traditions exist in other parts of the methodological world, including the qualitative domain. We hope that our chapter will inspire other researchers to integrate multiple approaches, and this handbook is a natural home for such work.

Such efforts drastically improve scholarly communication and help researchers develop a broad methodological approach that incorporates the strengths of multiple traditions.

We also hope that readers will use this chapter as motivation to fully reap the benefits of multilevel data. Higher education researchers regularly utilize multilevel models, but they often employ them without seeking to fundamentally advance their study. Instead, the models appear to be used simply to fulfill expectations of future readers who want to see advanced techniques. For support of our claim, we return to the following quote from Smart (2005): “the results obtained thus far from the use of HLM have not suggested any dramatically different conclusions from those based on the use of more conventional analytical procedures” (p. 466). Advanced techniques are not intrinsically valuable; their worth depends upon the extent to which they advance the study in question. This chapter has provided a simple and accessible introduction to the benefits of advanced analysis of multilevel data, and we hope that future research will more fully reap these benefits.

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Chapter 4

The Financial Aid Picture: Realism, Surrealism, or Cubism?

Donald E. Heller

Introduction

Financial assistance for students to attend college has existed almost as long as higher education in the United States. Holtschneider (1997) describes how the earliest colonial colleges offered assistance to those students deemed unable to pay for the cost of education themselves. As public colleges and universities developed in the nineteenth century, they too offered means-tested financial assistance to select students. Heller (2002a) described how from the beginning, the University of Virginia—generally considered to be the first true public university—offered free tuition to poor students from the Commonwealth of Virginia.

Over the ensuing centuries, financial aid from both institutional sources and publicly funded sources has grown and changed. A number of articles, including chapters in previous volumes of the handbook, have described and analyzed these policies. Many of these sources have focused on the federal role in funding higher education, an interesting proposition given that the US Constitution is silent on a federal role for education at any level. Gladieux and Wolanin (1976) describe the history of the federal government's role in providing financial assistance to students and institutions, including a detailed analysis of the creation of the Higher Education Act of 1965 and the important 1972 reauthorization (described in Section "A Brief History of Financial Aid"). Hearn (1993) describes the "paradox" of federal support for financial aid, noting that it "defies the ideals of logical policy development and implementation as described in the classic texts" (p. 95).

As federal student aid policy began to drift away from the primary goal of aiding poorer students as operationalized in the Higher Education Act of 1965, by the late 1970s and early 1980s, new analyses focused on the impact this change had on college access and equity. Fitzgerald and Delaney (2002), Gladieux (2002), and Hearn and Holdsworth (2004) chart the initiatives aimed at middle-class families during this era along with an emphasis on student loans over grants, a policy shift

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that has been shown to be detrimental to the college access and attainment interests of poorer students. St. John (2003) analyzes these trends as well and offers up a policy prescription to refocus the student financing system on its initial goals of equalizing educational opportunity.

Other analyses have focused on the role of states in financing student aid. Heller (2002b) and Hauptman (2001) documented historical shifts in student financing policy, some of which paralleled federal changes toward advantaging middle-income students, through the development of higher tuition policies and merit aid programs. Mumper (1996, 1998, 2001) analyzes how fiscal demands on states have caused them to shift resources away from higher education toward such priorities as K-12 education, corrections, and health needs, which has resulted in reduced affordability and access for lower-income students. Zumeta (1997) describes how states have expanded efforts at aiding private higher education institutions, often at the expense of the public sector.

Institutional financial aid, and its impact on access, affordability, and student success, has also received the scrutiny of researchers. Economists and college presidents Michael McPherson and Morton Owen Schapiro (1991, 1998, 2002) have been at the forefront of this research. Their work has tracked how institutions have used their own financial aid resources throughout history, how this has changed, and how these changes have interacted with state and federal student financing policies.

In this chapter, I draw on the work of many of these scholars along with my own research to describe how changes in the last three decades have altered financial aid and how it is provided to students today. The chapter opens with a brief history of aid provided by the federal and state governments, as well as that awarded by colleges and universities themselves.¹ Then I provide an overview of the current state of funding for financial aid in the nation. Finally, I use the metaphor of three distinct art movements—Realism, Surrealism, and Cubism—to analyze how the financial aid picture in the country has evolved and its current status.

A Brief History of Financial Aid

Federal Financial Aid

The passage of the Servicemen's Readjustment Act of 1944, usually referred to as the "GI Bill," is often noted as the federal government's first large-scale foray into providing financial assistance for individual college students. As I noted in Chapter 5 of Volume 17 of the Handbook (Heller, 2002a), however, the legislation was not motivated by equity or egalitarian considerations, but more as a means of ensuring that the returning veterans were not plunged into an American society

¹This chapter does not discuss financial aid provided from private sources such as philanthropic organizations or sources like tuition assistance from employers. In addition, the focus is on financial aid for undergraduate students.

that was adjusting from the economic boom of the war effort to a post-war civilian economy (for more on the GI Bill see Bennett, 1996; Greenberg, 1997).

The GI Bill was a smashing success, with college enrollments in the country increasing from 1.5 million in 1939–1940, immediately before World War II, to 2.4 million 10 years later, and 3.6 million 10 years after that, in 1959–1960 (National Center for Education Statistics, 2010b, Table 188). Much of this enrollment growth can be attributed to veterans taking advantage of their GI Bill benefits.

Even though the GI Bill was motivated more by economic considerations than by equity or egalitarianism, the federal government had examined the need for financial support for poor students to attend college. In July of 1946, President Harry Truman appointed the President's Commission on Higher Education (known as the Truman Commission), chaired by George Zook, president of the American Council on Education, the primary lobbying and advocacy group for higher education. The questions President Truman charged the commission with investigating included, “ways and means of expanding educational opportunities for all able young people” (President's Commission on Higher Education, 1947, no page). Over the course of approximately a year and a half, the commission held seven public meetings, met with representatives of higher education institutions across the country, and reviewed documents from both institutions and the federal government (Hutcheson, 2002). In December 1947, the members of the commission transmitted their final report, *Higher Education for American Democracy*, to President Truman (President's Commission on Higher Education, 1947).

Among the key findings of the commission, articulated in the first volume of its report, was that economic barriers were prohibiting many youth from attending postsecondary education:

By allowing the opportunity for higher education to depend so largely on the individual's economic status, we are not only denying to millions of young people the chance in life to which they are entitled; we are also depriving the Nation of a vast amount of potential leadership and potential social competence which it sorely needs. (p. 29)

It is interesting to note that the language used here by the commission refers not just to the potential losses for society as a whole, but also for the opportunity lost by individual students. Thus, the commission acknowledged both the social and private benefits of attending postsecondary education.

The goal the commission established to address this finding was clear and unambiguous:

The American people should set as their ultimate goal an educational system in which at no level—high school, college, graduate school, or professional school—will a qualified individual in any part of the country encounter an insuperable economic barrier to the attainment of the kind of education suited to his aptitudes and interests. (p. 36)

Among the specific recommendations the commission made were

2. The time has come to make education through the fourteenth grade available in the same way that high school education is now available. This means that tuition-free education should be available in public institutions to all youth for the traditional freshman and sophomore years or for the traditional 2-year junior college course. . .

3. The time has come to provide financial assistance to competent students in the tenth through fourteenth grades who would not be able to continue their education without such assistance. . . .

4. The time has come to reverse the present tendency of increasing tuition and other student fees in the senior college beyond the fourteenth year, and in both graduate and professional schools, by lowering tuition costs in publicly controlled colleges and by aiding deserving students through inaugurating a program of scholarships and fellowships. (pp. 37–38)

In many ways, these are stunning recommendations, and they foreshadow by decades later federal initiatives to address the issue of postsecondary educational opportunity. The notion that education through the 14th year (i.e., the first 2 years of college, whether at a community college or a 4-year institution) should be free is an issue later promoted by President Bill Clinton when he introduced the HOPE and Lifetime Learning tax credits for college during his second term in office. The call for the development of financial assistance, through scholarships and fellowships, presages Title IV of the Higher Education Act of 1965, Pub. L. No. 89–329, 1965 (see below). The urge to lower tuition increases foreshadows the congressional attention paid to the problem of rising tuition prices over the years, most noticeably during the first decade of the current century (see, for example, Burd, 2003).

However, even with the strong rhetoric contained in the Truman Commission's report, the federal government did not respond with any major initiatives on financial assistance for college until passage of the National Defense Education Act in 1958. This act, known as NDEA, was spurred by the Soviet Union's launch of the Sputnik satellite the year before. Concerned that the United States was losing ground to the Soviets in science and technology fields, Congress passed the NDEA and President Dwight Eisenhower signed it into law. The preamble to the legislation echoed some of the earlier language of the Truman Commission, stating

The security of the nation requires the fullest development of the mental resources and technical skills of its young men and women the nation requires that the federal government give assistance for programs which are important to the nation's defense. (quoted in Mumper, 1996, p. 76)

The focus is not so much on equity for the individual as it is on the development of human capital for the nation and, in particular, in areas deemed critical to national security.

The key portion of the NDEA related to financial assistance for college was the creation of the National Defense Student Loan program. This was a pool of capital that the federal government provided to colleges, which they would in turn loan to students to be repaid after the student graduated from college. The loans were to be focused on those students majoring in fields that were determined to be important in helping the nation beat back the Soviet threat. The NDEA was a fairly limited program, however, and had little impact on equalizing postsecondary educational opportunity.

The first major federal initiative to implement the key recommendations of the Truman Commission with respect to financial assistance for college students was the Higher Education Act (HEA) of 1965. Passed as part of President Lyndon Johnson's Great Society, the HEA, through Title IV of the act, introduced a series

of financial assistance programs that would be made available for the first time to a broad array of college students (as opposed to targeted programs such as the GI Bill or NDEA). President Johnson, when he signed the bill into law at his alma mater, Southwest Texas State University (later renamed the University of Texas San Marcos) in November 1965, said, “The President’s signature upon this legislation passed by this Congress will swing open a new door for the young people of America. For them, and for this entire land of ours, it is the most important door that will ever open—the door to education. And this legislation is the key which unlocks it” (quoted in Heller, 2007b, p. 2).

The introduction to Title IV of the act states

It is the purpose of this part to provide, through institutions of higher education, educational opportunity grants to assist in making available benefits of higher education to qualified high school graduates of exceptional financial need, who for lack of financial means of their own or of their families would be unable to obtain such benefits without such aid. (“Higher Education Act of 1965,” § 401)

This language echoes that of the Truman Commission, yet it took almost two decades after that commission issued its report before Congress responded with legislation to codify many of the programs articulated there.

Title IV of the HEA authorized three new student aid programs. The first created Educational Opportunity Grants (EOG), available to students with financial need as determined by the college the student attended. The second program, Guaranteed Student Loans (GSL), focused on addressing the capital constraints faced by college students. The GSL program provided incentives to banks to loan money to college students by subsidizing the interest rate, guaranteeing the loans against default, and providing an in-school subsidy so that students would not have to begin repayment of the loans until a year after they left college. The third program, College Work Study, provided subsidies to colleges which paid students to work in on-campus jobs.

The early years of the Title IV programs had little impact on access to college. The EOG program was not well-funded, and the decision to allow the colleges to make the awards meant that there was little predictability in awards for poor students who were contemplating attending college. It was not until the 1972 reauthorization of HEA that Congress addressed the limitations of the EOG program, which had been acknowledged as having yet had little impact on educational opportunity for lower-income students. It restructured the EOG into a new program, the Basic Educational Opportunity Grant (BEOG) program (later renamed the Pell Grant program in 1980, after Senator Claiborne Pell, one of the key backers of the creation of the BEOG program), and funded it at a level to better meet student needs. The primary change to the program was to target the funding on financially needy students, administered through the Office of Education in the Department of Health, Education, and Welfare, rather than providing the funds directly to institutions.

The shifting of grants under Title IV of the Higher Education Act from institution to students helped introduce more of a market model of student aid, where

students could use the portability of their BEOG grants to attend any accredited college or university in the United States. In addition to portability, the BEOG program also established on an annual basis an identified and fixed grant maximum, so that students could have an idea of how much federal aid they would qualify for. This provided more predictability for students, regardless of where they chose to go to college, and with the increase in funding, the program began to have more impact on college access. Mumper (1996) stated, “Title IV of the HEA was unquestionably the largest single development in the federal effort to remove college price barriers” (p. 80). Few analysts would dispute this claim, even though the value of the Title IV aid—as measured against college prices—has eroded over time. Figure 4.1 shows the relationship between the maximum Pell Grant award each year (as measured in constant dollars) and the proportion of the cost of attendance (tuition, mandatory fees, room and board charges) covered by that grant at the average-priced public and private 4-year institution in the country.

In the early years of the program, Pell Grants were limited to no more than 50% of the student’s cost of attendance, a limit raised to 60% in 1985 and then eliminated in 1993. In the 1979–1980 academic year, the maximum Pell Grant was \$5,416 (in 2008 dollars), and it would cover 50% of the cost of attending an average, public 4-year college or university (for an in-state student) that year.² The same grant covered 37% of the cost at the typical private 4-year institution.

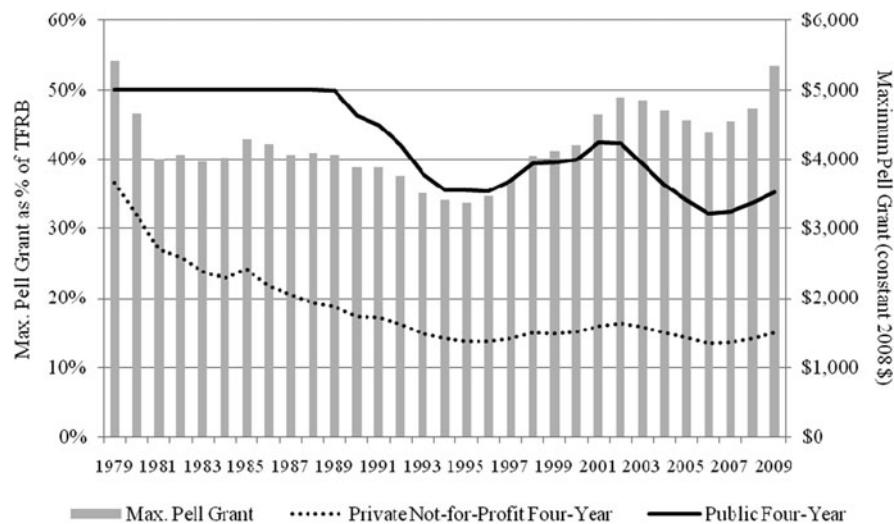


Fig. 4.1 Maximum Pell Grant and maximum Pell Grant as a percent of average cost of tuition, fees, room and board charges. Source: Author's calculations from College Board (2009a, 2009b)

²Congress set maximum *authorized* awards for the program, but the *actual* maximum grant award was established by the annual appropriations established by Congress.

The purchasing power of the Pell Grant, both in absolute terms and compared to tuition prices, has eroded over the years. The maximum Pell Grant award in 2009–2010 was \$5,350, still below the level of 1979 (in constant dollars). The student receiving the maximum Pell award received only 35% of the cost of attending a public 4-year institution and 15% at a private institution in the 2009–2010 academic year.

Unlike the Pell Grant program, which was subject to the annual appropriation limits established by Congress, the Guaranteed Student Loan Program (later named the Stafford Loan Program, after Senator Robert Stafford of Vermont, one of the champions of the program) was structured as an entitlement. Congress was more willing to provide funding for student loans, particularly in the period beginning during the Reagan administration when changes in federal budget rules pushed student loans “off-budget” or not subject to agreements on aggregate federal spending limits. Thus, the use of federal loans grew, spurred on also by the introduction of the Parent Loan for Undergraduate Students in the 1980 reauthorization of HEA and unsubsidized Stafford loans in the 1992 reauthorization.

The late 1970s saw an important shift away from a fairly narrow focus on the needs of poor students with Congress’ passage and President Jimmy Carter’s signing into law of the Middle Income Student Assistance Act (MISAA). In response to pressure from middle-class voters, who felt they were being squeezed between rising college prices and federal (and state) student aid policies that remained targeted at these poorer students, this legislation liberalized the means-testing of the Pell Grant program, opening it up to more middle-income students, and it removed means-testing for subsidized Guaranteed Student Loans (St. John, 2003).

Hearn (1993) described MISAA as a “striking defeat” (p. 113) for those who had been attempting to keep the federal Title IV programs focused on providing grant aid to financially needy students:

The stated goals of the MISAA legislation were to promote educational choice and persistence, as well as access, for both lower and middle-income students. As it turned out, upper-income students and families also benefitted substantially from the MISAA legislation. In this sense, MISAA was a clear departure from the coalition’s need-base dogma in that it instituted a substantially more liberal definition of “need” for the federal aid programs. (p. 113)

The long-term impact of MISAA, however, was muted by subsequent changes after the election of President Ronald Reagan in 1980. Reagan’s efforts to scale back the size of the federal government (which included an unsuccessful attempt at eliminating the Department of Education as a cabinet-level agency) resulted in the rolling back of most of the provisions of MISAA in the 1982 amendments to the Higher Education Act (Parsons, 1997).

The most recent federal program to introduce a new funding stream for higher education students was the introduction of the HOPE and Lifetime Learning tax credits in 1998. Introduced by President Clinton as part of his reelection campaign in 1996, Congress included them in the Taxpayer Relief Act of 1997 and President Clinton signed the legislation into law. Students or their parents can utilize the tax

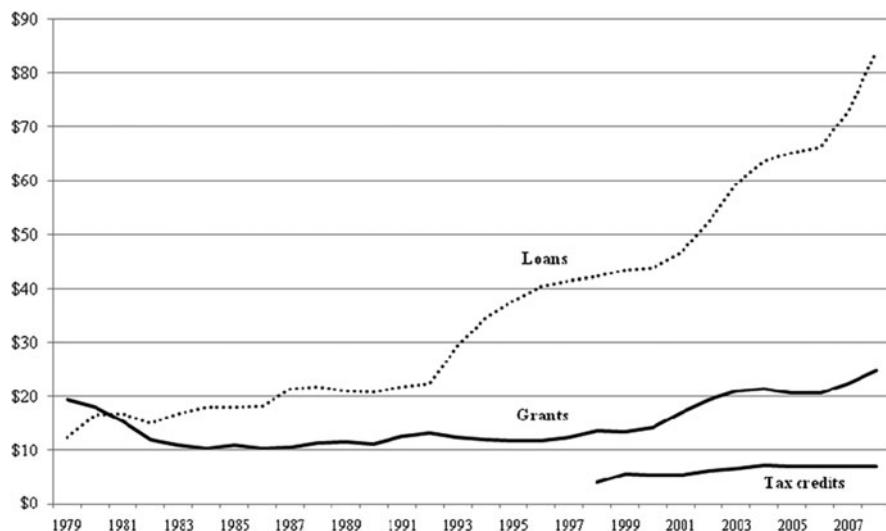


Fig. 4.2 Federal outlays for financial aid programs in billions (constant 2008 dollars). Source: College Board (2009a, 2009b)

credits to offset part of their tuition costs each year, within limits established in the federal tax code.

Figure 4.2 summarizes total federal outlays for these three forms of financial aid over the last three decades, shown in constant (inflation-adjusted) dollars.³ Funding for federal grants has been relatively flat, increasing from \$19.4 billion in the 1979–1980 academic year to \$24.8 billion in 2008–2009. In contrast, borrowing under the federal loan programs has skyrocketed, increasing from \$12.4 billion to \$84.0 billion, or 577%, in 2008–2009. The tax credits, first introduced in 1998, have grown from \$4.0 billion to \$6.8 billion.⁴

State Financial Aid⁵

A handful of states operated a relatively small number of financial aid programs at the time Congress passed the Higher Education Act of 1965. By the end of that decade, 19 states had appropriated approximately \$200 million in grant aid

³The grants category is for all types of federal grants, which includes, besides Pell Grants, programs such as veterans' and active duty military grants. In 2008–2009, Pell Grants represented almost three-quarters of the total of federal grants.

⁴The federal College Work Study program has remained small relative to the other programs, and its funding has decreased over the years from \$1.8 billion in 1979–1980 to \$1.2 billion in 2008–2009.

⁵Parts of this section have been adapted from Heller (2002a).

for college students (Fenske & Boyd, 1981). In 1972, the Higher Education Act was reauthorized introducing the Basic Educational Opportunity Grants and the State Student Incentive Grant (SSIG) program. The SSIG program, later renamed Leveraging Educational Assistance Partnerships (LEAP), provided matching grants from the federal government to states to encourage them to develop their own need-based grant programs.

In response to SSIG, state appropriations for grants increased to 36 states and \$423 million in 1974 and to every state and the District of Columbia for a total of \$800 million just 5 years later (Heller, 2002a). A 1975 survey conducted by the National Association of State Scholarship Programs commented that “Growth represented in ’74–75 and ’75–76 . . . is a response to the new SSIG Program which permits up to a \$1,500 annual student award (equal shares of \$750 Federal/State) in this new form of State/Federal partnership” (Boyd, 1975, p. 2). This amount of \$1,500 was not trivial; the maximum Pell Grant award in 1975–1976 was \$1,400, so a student receiving a state grant in this amount would more than double her grant funding from public sources.

As I pointed out in an earlier contribution to this series, however, it is hard to pin the overall responsibility for increases in state grant spending on the federal government’s development of the SSIG/LEAP program (Heller, 2002a). During the ensuing almost 35 years, funding for state grants has far outstripped funding for SSIG/LEAP. The latter program has seen its funding increase 242%, rising from \$19 million in 1974–1975 to \$65 million in 2007–2008 (measured in current dollars). In contrast, funding for need-based grants in the states has grown 1,248%, from \$423 million to \$5.7 billion during this same period. As I pointed out in Chapter 5 of Volume 17 of the Handbook (Heller, 2002a), “It is hard to demonstrate a linkage between the level of funding for SSIG/LEAP and the actions states took to expand their own grant programs to the extent they did” (p. 231), at least after the initial impetus provided by passage of SSIG in the 1972 reauthorization of HEA.

Besides the large growth in states’ need-based grant programs, the other major development in state financial aid has been the creation of grant programs based on criteria other than financial need. In the early years, these were often very specialized and targeted programs, such as those that offered grants to widows or orphans of police officers or firefighters killed in the line of duty. However, the creation of the HOPE Scholarship program by Georgia Governor Zell Miller in 1993 was a watershed in the growth of what are generally referred to as “non-need” grant programs.

The HOPE (an acronym for “Helping Outstanding Pupils Educationally”) program is funded from Georgia’s lottery revenues and awards its grants based on the grade point average earned by high school students. When first introduced in 1993, the program had an income cap of \$66,000, but the program proved to be so popular, and lottery sales grew so quickly, that the income cap was raised to \$100,000 in the second year and eliminated entirely after that (see Cornwell & Mustard, 2002, for more on the history of HOPE). The political popularity of merit-based programs like HOPE spurred other states to develop similar programs, most using comparable measures of academic merit based on either high school grades, standardized test

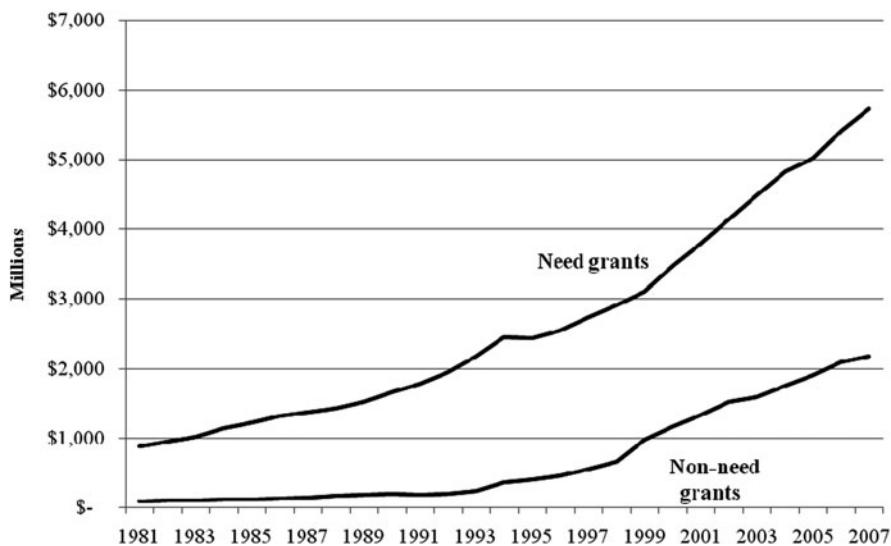


Fig. 4.3 State funding for grants for undergraduate students (current dollars). Source: National Association of State Scholarship and Grant Programs, [various years](#))

scores (such as the SAT or ACT), or a combination of the two. Fourteen states now have similar, broad-based merit aid programs (Heller & Marin, 2004).

Figure 4.3 shows the growth of state funding for both need-based and non-need grants for undergraduate students since 1981. As can be seen, before the development of Georgia HOPE in 1993, funding for grants awarded without means-testing was relatively flat across the nation. It was not until that program was implemented and others followed that funding for non-need-based programs began to grow at a substantial rate. In 1992–1993, the last year before Georgia HOPE, grants awarded without consideration of financial need by states represented 10% of the \$2.2 billion total; by 2007–2008, non-need-based grants represented 28% of the \$7.9 billion awarded by the states to undergraduates. Since 1992, funding for need-based grants increased 193%, while funding for non-need grants increased 955%. The need and non-need-based student financial assistance together represented almost 10% of the \$80.7 billion provided in state support for higher education in total (Illinois State University Center for the Study of Education Policy, 2010).

Institutional Financial Aid

As noted in the introduction to this chapter, colleges and universities have awarded scholarships and other student financial assistance since the colonial era. Holtschneider (1997) described one college's efforts at ensuring affordability this way:

As affordable as the founders had tried to make the new college [Harvard College], they discovered a cohort of candidates eager to attend the college but unable to afford its charges. To assist these young men, scholarships were sought from wealthy friends back in England. These scholarships closely resembled the scholarships many of the founders themselves had observed or received as students in the colleges of Cambridge and Oxford. A few college jobs were instituted as well, helping a few needy students to pay their living expenses. Almost from the beginning, then, Harvard College had created financial assistance structures for its students that both attempted to keep the institutional [sic] affordable for a broad range of Massachusetts residents, and offered additional financial help to a few students who could not raise the necessary funds themselves. (pp. 3–4)

Note that Harvard offered not just scholarships to needy students, but also an early version of work study—jobs on campus as a means for students to work their way through college.

It was not just private colleges that offered scholarships, but also their public counterparts, even though they attempted to maintain policies of low tuition charges in their earliest days. The University of Virginia, founded by Thomas Jefferson, had provisions for free tuition for poor students in the Commonwealth, and Iowa State University offered 50 scholarships of free tuition when it opened in 1855 (Brubacher & Rudy, 1976; Sears, 1923).

Over the years, both public and private colleges developed financial assistance programs that focused on both students with financial need and those who were deemed academically meritorious. Lemann (1999) describes how Harvard's decision to introduce scholarships based on merit in the 1930s helped lead to the creation of the Scholastic Aptitude Test as a mechanism for identifying high-achieving public school students.

There have been few detailed studies analyzing the amount of financial aid provided by institutions throughout history. However, in 1987 the US Department of Education began a national survey representative of all college students, the National Postsecondary Student Aid Study (NPSAS), to gather data on the tuition and other charges faced by students along with how they were financing their college educations. Conducted every 3 or 4 years since that time, the NPSAS surveys provide detailed data on the topic of student financing of higher education.

The data from the 1987–1988 survey (Fig. 4.4) show that students in private 4-year colleges and universities were more than twice as likely to receive institutional grant assistance than were their counterparts in public institutions and approximately four times more likely to receive grants than community college students. The most recent survey shows that the proportion of students receiving institutional grants has increased in every sector.

In the 1987–1988 academic year, higher education institutions awarded a total of \$3.1 billion in institutional grant aid to undergraduates; two decades later, this amount had grown 560% to \$20.7 billion (author's calculations from National Center for Education Statistics, 2010c, 2010d).

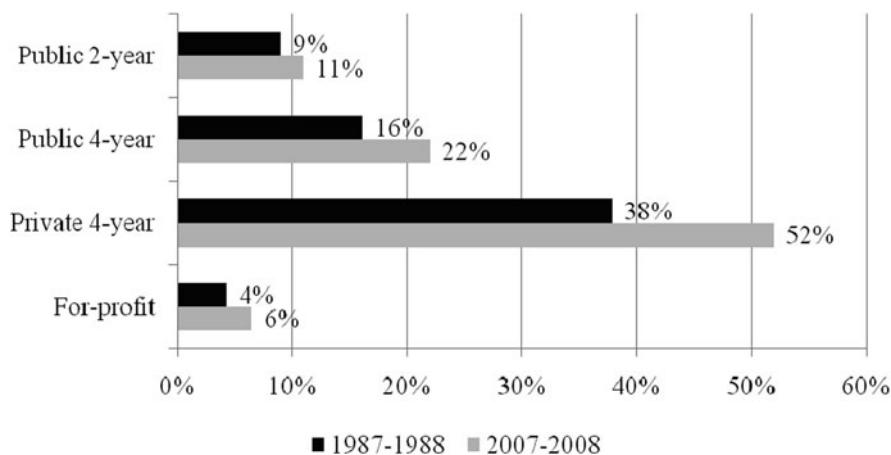


Fig. 4.4 Proportion of undergraduates in 4-year institutions receiving institutional grants, by sector. Source: Author's calculations from National Center for Education Statistics (2010c, 2010d)

The Current Status of Financial Aid

Having provided a history of the financial support provided to students, I now present an overview of the current status of that support. Unless otherwise indicated, the source of the estimates in this section is the author's calculations of data from the National Postsecondary Student Aid Study (NPSAS) for the 2007–2008 academic year (National Center for Education Statistics, 2010d).

Undergraduate students in the 2007–2008 academic year received \$130 billion in financial assistance to help pay for college. Figure 4.5 shows the amounts and sources of that aid. Half of the aid was in the form of loans, 43% was grants, and the remaining 7% was from tax benefits or work study.

Federal grant aid is predominantly in the Pell Grant program; 78% of the federal grants awarded were from the Pell program, with the remainder in other federal grants including Supplemental Educational Opportunity Grants as well as veterans' and active duty military grants. The Pell program is highly targeted at students from low- and moderate-income families; 90% of dependent Pell Grant recipients (i.e., those under the age of 24, unmarried, and not military veterans) had parents with family incomes below \$47,000 in 2006.⁶ In contrast, the 90th percentile for all dependent students that year was an income level of approximately \$150,000. It is important to note that over half, 58%, of all Pell recipients, however, were independent students.

⁶Eligibility for means-tested financial aid is based on income in the year prior to attending college, so for students in the 2007–2008 NPSAS survey, income data from 2006 are used.

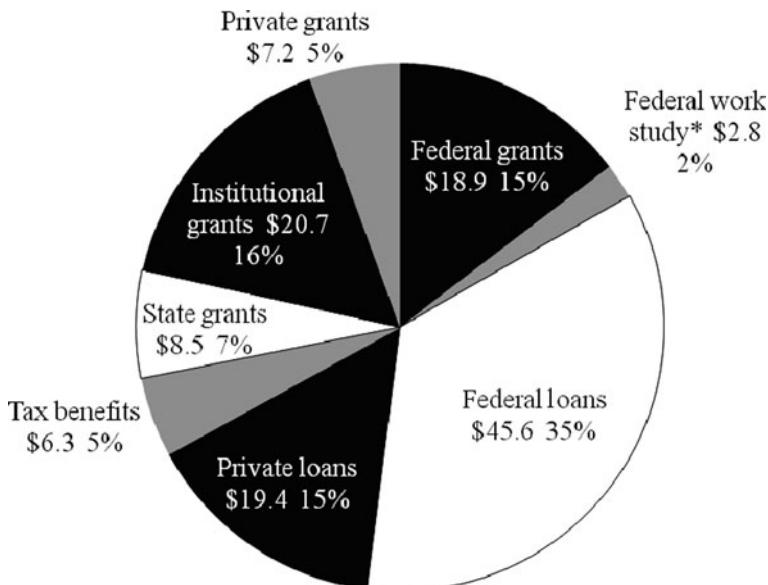


Fig. 4.5 Financial aid to undergraduate students by source, 2007–2008. *Includes institutional matching funds

Approximately one-third of all undergraduates borrowed in the federal loan programs in 2007–2008 (including those with parents who borrowed through the Parental Loan for Undergraduate Students program), totaling \$45 billion in borrowing. Fourteen percent of students reported also borrowing from private (non-federal) lenders.⁷ A recent report from the College Board (2010) examined the cumulative debt levels of students completing bachelor's degree programs in 2007–2008. Approximately two-thirds of all bachelor's recipients had borrowed money to pay for college at some point in their undergraduate career; for those who borrowed, the median cumulative amount at graduation was \$20,000.⁸ One-quarter of all graduating students reported they borrowed a total exceeding \$30,500, a level the report designated as a "high debt level." The proportion with high debt levels varied quite a bit by sector, however. Among students graduating with bachelor's degrees from public colleges and universities, only 12% incurred a high debt level. In private, not-for-profit institutions, 24% had a high debt level. And in the proprietary, for-profit

⁷The credit crisis and recession that began in 2008 had a large impact on the private student loan markets, with many lenders leaving the market. The College Board (2009b) reported that overall (graduate and undergraduate combined) borrowing from private lenders, which had been growing steadily over the prior decade, dropped by half between 2007–2008 and 2008–2009, from \$23.8 to \$11.9 billion.

⁸This total is only for the borrowing incurred by the student and excludes parent PLUS loans or other borrowing by parents such as through home equity loans.

sector, 53% of the students graduated with cumulative borrowing above this threshold. Twenty-four percent of independent students overall had debt above this level, a rate twice that of dependent students.

Figure 4.6 shows the distribution of state and institutional dollars awarded by type, need or non-need grants. Approximately 16% of students received grant support from their states and 20% from the institutions they attended. Thirty percent of all state grant dollars and 55% of institutional grants were awarded without consideration of financial need.

The awarding of these different forms of aid varies across income groups. To examine this, I divided all dependent students in the NPSAS survey for 2007–2008 into income quartiles, based on their parents' income in 2006. The income groups are as follows:

- Lower income: $\leq \$37,888$
- Lower-middle income: $\$37,889\text{--}\$67,754$
- Upper-middle income: $\$67,755\text{--}\$105,240$
- Upper income: $\geq \$105,241$

Figure 4.7 shows the proportion of students in each income group receiving different forms of grant aid. As noted earlier, federal grants are well-targeted on students from the lower and lower-middle income groups. Two-thirds of students from the bottom income quartile received a federal grant (mostly Pell Grants), while 21% of those in the lower-middle income group received federal grant aid; only 1% of students from above the median received federal grants.

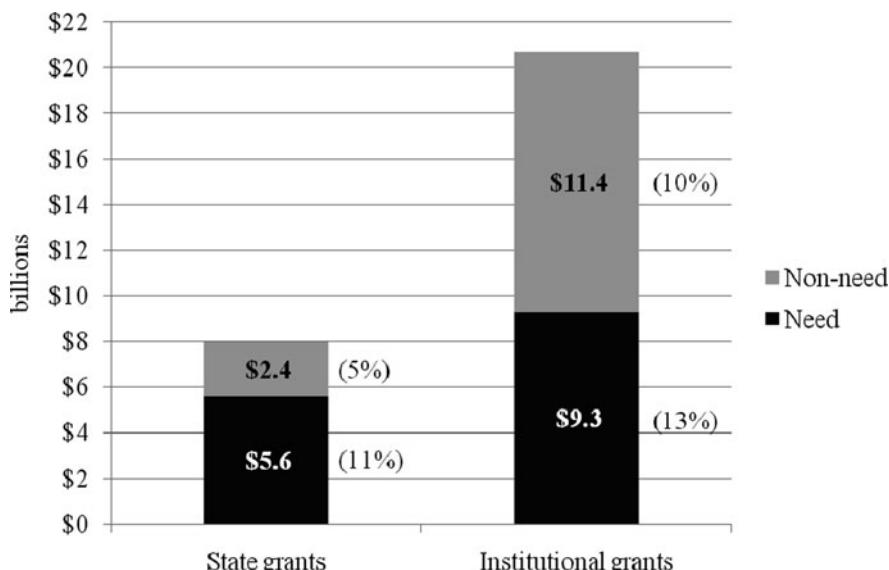


Fig. 4.6 State and institutional grants to undergraduate students by type, 2007–2008. The proportion of all students who received each form of grant is shown in parentheses

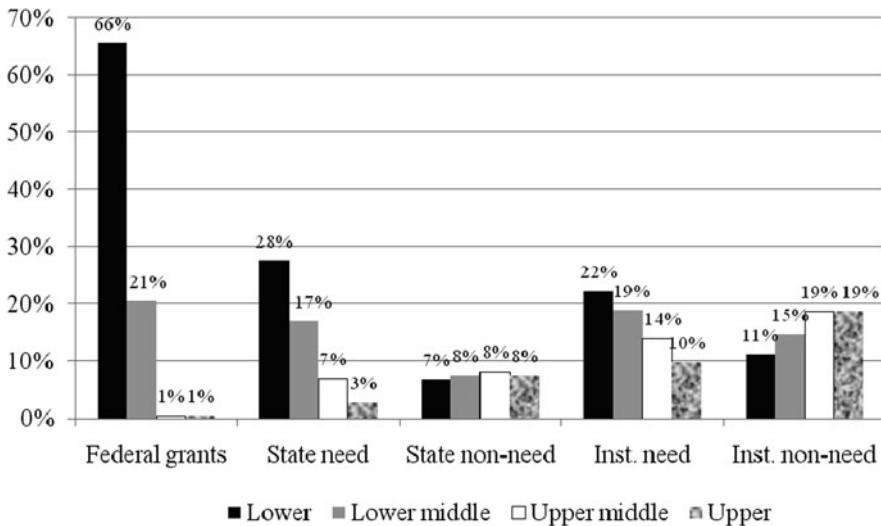


Fig. 4.7 Proportion of dependent students receiving grant aid, by type and income quartile

State need-based grants, because of income means-testing, are also awarded predominantly to students from below the income median. However, means-testing of state grants is not as targeted as federal grants, as approximately 7% of students from the upper-middle income group and 3% of those in the upper-income group received a state need-based grant. Grants awarded by states without income means-testing are much more evenly distributed across the income categories, with 7–8% of each of the four quartiles receiving this form of grant.

Colleges and universities, in awarding grants from their own resources, can use whatever rules they want. Thus, institutional need-based grants, even though they are means-tested, are distributed further up the income ladder than are either federal or state need-based grants. Many institutions have more liberal definitions of financial need than do the federal or state governments. For example, in 2007 Harvard University announced that it would begin awarding need-based grants to students from families with incomes up to \$180,000 (a level that placed a family in the top 5% of all earners in that year); Yale quickly followed suit, announcing it would give need-based aid to students from families with incomes up to \$200,000 (“Colleges and sticker shock,” 2008; Hoover, 2007). Thus, even those institutional grants based on need tend to be awarded to students further up the income ladder than are publicly funded grants, where means-testing is much tighter.⁹

The impact of this difference can be seen in Fig. 4.7. Fourteen percent and 10% of upper-middle and upper-income students, respectively, received institutional

⁹An income in this level would not qualify students for federal means-tested grants or most state need-based grant programs. Students and parents can estimate their eligibility for need-based federal grants and loans at <http://www.fafsa4caster.ed.gov/F4CAApp/index/index.jsf> or <http://www.finaid.org/calculators/finaidestimate.phtml>

need-based grants. While these are smaller proportions than the bottom half of the income distribution, this is still a large proportion of grants awarded based on financial need to these wealthier students. Institutional non-need grants are even more skewed toward the higher-income groups, with those students from families above the median income more likely to have received an institutional non-need award than students from below the median.

The distribution of the total amount of grant aid among the four income groups is shown in Fig. 4.8. Eighty-four percent of all federal grant dollars were awarded to dependent students from the bottom income quartile, and 15% went to the lower-middle income group; a total of only 1% of the grant aid went to those students from families above the median. State need-based grant dollars are still targeted predominantly to the bottom half of the income distribution, but one-third (as opposed to 15% of federal grant dollars) went to students in the lower-middle income group. Approximately one in six state need-based dollars went to students in the top half of the income distribution. In contrast, 56% of state non-need grant dollars went to students from the top half of the income distribution, indicative of the relationship between income and the type of academic measure used in awarding these grants (see Heller & Marin, 2002, 2004, for more on this relationship).

Institutional grants, both those awarded based on financial need and those awarded without means-testing, are more skewed toward higher-income students. Forty-five percent of all institutional need-based grants were awarded to students from incomes above the median of \$67,754, and 63% of all institutional grant dollars awarded without considering financial need went to students in the upper two income quartiles. Figure 4.8 also shows that the total amount of grants awarded by

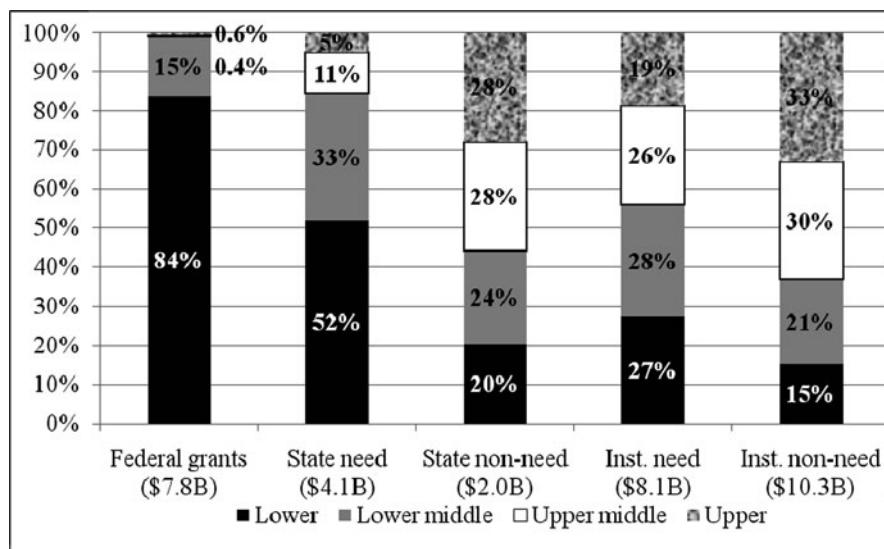


Fig. 4.8 Distribution of total grant aid awarded to dependent students, by type and income quartile. Total amount of aid awarded of each type is shown in parentheses

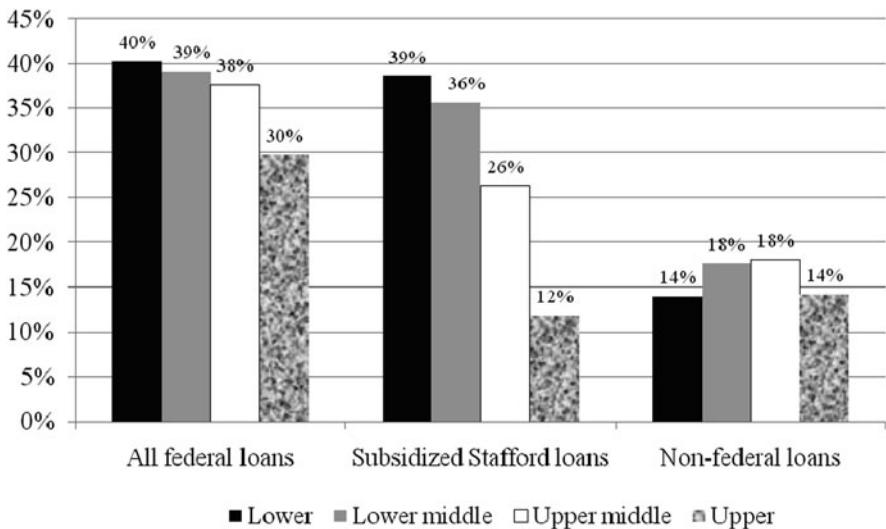


Fig. 4.9 Proportion of dependent students borrowing for college, by type and income quartile

institutions, \$18.4 billion, was approximately one-third greater than the sum of the grants awarded by the federal and state governments.

Figure 4.9 provides information on the proportion of dependent students in each income group who borrowed from the major loan programs. Students from the bottom three income groups borrowed from the federal loan programs—including Perkins loans, subsidized Stafford loans, unsubsidized Stafford loans, and parent PLUS loans—at similar rates. Students from the top income group were somewhat less likely to borrow in one or more of the federal programs.

Because of the means-testing applied to the subsidized Stafford loan program, students from the bottom half of the income distribution were more likely to borrow in this program, with 39% of the lower-income group and 36% of the lower-middle group using this source of loan aid. Only one-quarter of students in the upper-middle income group and 12% of the students in the top income quartile qualified for and availed themselves of subsidized Stafford loans.

Figure 4.9 also shows that middle-income students were slightly more likely to take out non-federal loans to help pay for college, with approximately 18% of the two middle-income groups taking out private loans. Approximately one in seven students from the bottom and top income quartiles borrowed from non-federal sources.

Figure 4.10 shows the distribution of loan dollars in each program by income quartile. The total amount of federal loans is approximately equally distributed among the four income quartiles, while borrowing in the federal subsidized Stafford program is more concentrated among the bottom half of the income distribution, with approximately two-thirds of all dollars in this program borrowed by students in these two income groups.

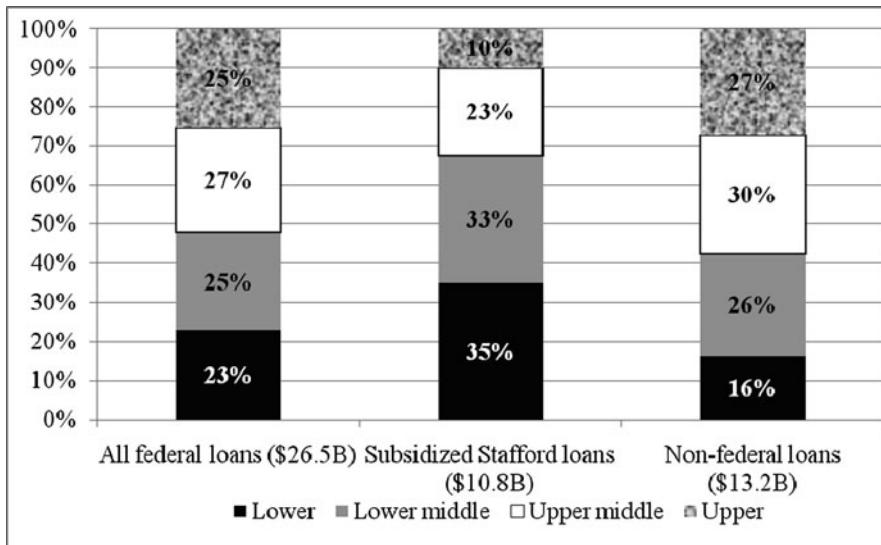


Fig. 4.10 Distribution of total student loan borrowing by dependent students, by type and income quartile. Total amount borrowed in each loan program is shown in parentheses

One interesting pattern in the loan data is that while students from the bottom and top income groups were just about as likely to take out non-federal loans, the amount borrowed by the top income quartile was much greater (27% of the \$13.2 billion total, or \$3.6 billion) than that of the lowest income group (\$2.1 billion, or 16% of the total). This indicates that students from the top income group borrowed greater amounts from private lenders.

Financial Aid and the Metaphor of the Three Art Movements

The Three Movements

In this section I draw on three art movements from the last century as metaphors for analyzing how student financial aid has evolved over time. I start with a description of each of the three movements and then use each movement to describe different aspects of the financial aid system in the United States today.

The first is *Realism*. Chilvers, Osborne, and Farr (1988) describe Realism as

.... implying a desire to depict things accurately and objectively. Often, however, the term carries with it the suggestion of the rejection of conventionally beautiful subjects or idealization in favor of a more down-to-earth approach, often with a stress on low life or the activities of the common man In this sense art is called "Realist" when the materials or objects from which the work is constructed are presented for exactly what they are and are known to be. (pp. 411–412)

Realism was a repudiation of the idyllic portrayal of subjects, an attempt to use art to portray the everyday person, rather than the upper class or bourgeois subjects often dominating the works of impressionist artists of the nineteenth and early twentieth centuries.

The second is *Surrealism*, which was a movement “. . . originating in France and flourishing in the 1920s and 1930s, characterized by a fascination with the bizarre, the incongruous, and the irrational” (Chilvers et al., 1988, p. 482). Another author describes Surrealism as developing

... in two directions: pure fantasy, and the elaborate reconstruction of a dream-world . . .

The second took the form of highly detailed likenesses of objects, straight or distorted, or three-dimensional abstractions, in a fantastic and unexpected juxtaposition, or in a setting of a hallucinatory kind . . . (Murray & Murray, 1989, pp. 407–408)

Irrationality and the juxtaposition of disparate sentiments or thoughts are common traits of Surrealism.

The third movement is *Cubism*. Moffat (2010) wrote, “Cubist painters were not bound to copying form, texture, colour, and space; instead, they presented a new reality in paintings that depicted radically fragmented objects, whose several sides were seen simultaneously” (p. 1). Another author noted that “the disintegrated image of the natural object gradually took on a more and more abstract geometrical shape, until finally the geometrical shapes are so remotely related to the original form of the object that they seem almost to have been invented rather than derived . . .” (Alfred H. Barr, 1936, quoted in Robbins, 1988, p. 280).

The Three Art Movements as a Lens for Understanding Financial Aid Today

Just as Realism is a focus on “the common man” (Chilvers et al., 1988, p. 411), so are certain financial aid programs focused on working class students. Pell Grants, the largest federal grant program, represent 82% of all federal grant aid awarded to undergraduate students (College Board, 2009b). Forty-five years after their creation in the Higher Education Act of 1965, they are still targeted at students of “exceptional financial need” as described in the preamble to Title IV (“Higher Education Act of 1965,” §401). Two-thirds of students from the bottom income quartile of all dependent undergraduates in 2007–2008 received a Pell Grant, and 84% of all Pell dollars awarded to dependent students went to this group, with only 15% going to students in the second income quartile (Fig. 4.8).¹⁰

An important trend in the Pell Grant program, one that likely was unforeseen by congressional backers and President Johnson when the program was first created,

¹⁰It should be noted here that students attending college come from families that overall have slightly higher incomes than the population at large. While the NPSAS sample has a median income of \$67,754, all families in the United States with at least one child under the age of 18 had a median income of \$56,788 in 2006 (U.S. Census Bureau, 2010a).

has been the growth in awards to independent students. By federal rules, students are considered dependent students unless they fall into one or more of the following categories:

- Age 24 or older on December 31 of the academic year
- Enrolled in a graduate or professional program beyond a bachelor's degree
- Married
- Orphan or ward of the court
- Have legal dependents other than a spouse
- A veteran of the US Armed Forces
- US Armed Forces active duty personnel (National Center for Education Statistics, 2010d)

In 2007–2008, 58% of Pell Grant recipients were independent students, and they received 54% of all the Pell dollars (author's calculations from National Center for Education Statistics, 2010d). In 1975–1976, 30% of Pell recipients were independent, a proportion that rose as high as 62% in 1992–1993 (College Board, 2009b).

In the 1992 reauthorization of the Higher Education Act, regulations regarding student loan defaults were changed, resulting in hundreds of proprietary (for-profit) institutions being removed from the Title IV programs (Cervantes et al., 2005). As the proprietary sector serves many of the independent students, this helped to decrease the proportion of independent students receiving Pell Grants. While 47% of all undergraduate students in 2007–2008 were independent, 76% of those in the proprietary sector were (author's calculations from National Center for Education Statistics, 2010d).

Congress and presidential administrations have kept the Pell Grant program focused on its original, highly targeted purposes as articulated in the Higher Education Act. Even as other Title IV programs were changed or added, along with other funding provisions outside of the Higher Education Act, the Pell program remained highly targeted on helping financially needy students attend college.

For example, in the 1976 reauthorization of the Higher Education Act—the first after Congress created the Basic Educational Opportunity Grants (the predecessor to Pell) in 1972—eligibility rules for the BEOG grants were liberalized, thus opening up the program to more students (Mumper, 1996). Even with this change, however, the program was still targeted at those students well below the median income in the country.

In 1978, Congress passed and President Jimmy Carter signed into law the Middle Income Student Assistance Act (MISAA). This legislation arose out of concerns that the middle class was struggling to pay for college; these students received little assistance from the federal government because the BEOG grants were only available to poorer students and some middle-income students did not even qualify for federal subsidized loans (Cervantes et al., 2005). In response, MISAA eliminated the income cap on these loans, opening them up to middle- and even upper-income students, but made few changes to the means-testing associated with

the BEOG program. Three years later, in response to the rising cost of the federal loan programs, Congress reinstated an income ceiling on subsidized loans.

Tax credits to offset the cost of tuition had been proposed many times over the years, yet Congress had resisted them. It was not until President Bill Clinton pledged to make the first 2 years of college all but free (echoing one of the recommendations of the Truman Commission 50 years earlier) during his reelection campaign that Congress implemented a series of tax credits through passage of the Taxpayer Relief Act of 1997 (Fitzgerald & Delaney, 2002). This legislation created the HOPE and Lifetime Learning Tax Credits, with the former providing up to \$1,500 per year for the first 2 years of postsecondary education and the latter up to \$2,000 annually for subsequent years. This was an initiative, like MISAA, that was clearly targeted at the middle class and beyond. The tax credits had an income cap well into what most people would consider to be the upper classes, making it a benefit to many students who would not qualify for federal means-tested Title IV aid. In addition, the tax credits were non-refundable, meaning that they would only benefit families who had a large enough tax liability to be able to claim the credit. Research has confirmed that the credits largely benefit middle- and upper-income students (Long, 2003). Even this \$40 billion influx of funds into higher education was done, however, without touching the targeting of the Pell Grant program.

The main failure of the Pell Grant program to meet the needs of the working class has not been one of structure, but rather inadequate funding. Throughout the regular reauthorizations of the Higher Education Act as well as other changes in federal law, the eligibility requirements for Pell have remained firmly to the benefit of “the common man.” Even in the debates regarding the affordability of college for the middle class—as articulated during passage of MISAA as well as in more recent discussions revolving around rising college prices—Congress has resisted restructuring Pell to reach up into what the artists who were part of the Realism movement in painting would have described as the bourgeoisie.

As shown in Fig. 4.1, the maximum Pell Grant award has been largely flat, once inflation is taken into account. The maximum Pell award in 2009–2010 was \$66 below the level of 1979–1980 in constant dollars. As tuition prices have risen, the purchasing power of Pell has declined, even after the 50% and later 60% award caps were removed.

Given these funding shortfalls, does Pell still meet its original intent of helping the common man (and today, woman, of course) to overcome the financial barriers of attending college and persisting through to attain a degree once enrolled? Certainly by itself it does not today fulfill this goal, but as noted in the earlier sections, Pell-eligible students receive assistance from other quarters.

Many of the state-operated need-based grant programs, for example, were created with similar purposes to the Pell program, and their creation was spurred on at least in part by the federal State Student Incentive Grant program. While these state programs are means-tested, they suffer from two limitations. First, they are not nearly as universal as Pell; as noted earlier, while two-thirds of dependent students in the bottom income quartile received a Pell award in 2007–2008, only 28% of students in this group received a state need-based grant (Fig. 4.7). Second, they are not

as narrowly targeted on poorer students as is the Pell program. While all Pell awards go to dependent students from below the median income, 16% of state need-based grants go to students above median, with 5% of the total going to students from families with incomes above \$105,240. Both Pell and state need-based grants provide, on average, similar levels of support to students who receive them (approximately \$2,750 for each in 2007–2008).

Even with this assistance from the federal and state governments, however, poorer students face large financial barriers to attending college. Using data from the 2007–2008 NPSAS survey, Fig. 4.11 shows the average unmet need before institutional grant assistance, by income quartile for

- students in public, 4-year institutions paying in-state (resident) tuition;
- students in public, 4-year institutions paying out-of-state (non-resident) tuition; and
- students in private, 4-year institutions.

“Unmet need” is calculated as follows:

$$\text{Unmet need} = \text{cost of attendance} - (\text{effective family contribution} + \text{federal grants} + \text{state grants}).$$

In other words, this is the amount of money the student must obtain—through loans, work earnings, private grants and scholarships, or institutional grants—in order to meet the cost of attending the institution.

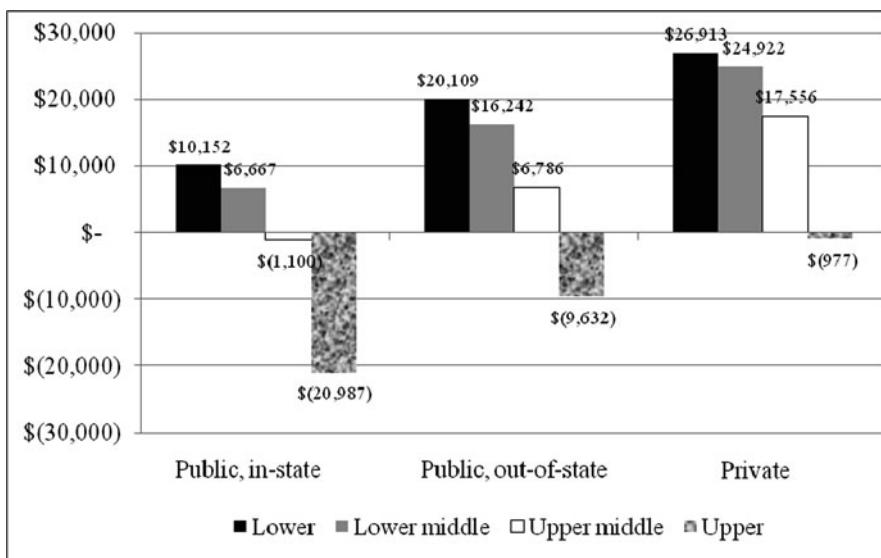


Fig. 4.11 Average unmet need after state and federal grants, by institution type and income quartile. Note: Full-time, dependent students in 4-year institutions (excludes veterans and military grants). Source: Heller, Cheslock, Hughes, and Frick Cardelle (2010)

Figure 4.11 shows that students in the bottom income quartile attending a public institution in their home state faced unmet need of over \$10,000 per year, with students in the second income quartile facing approximately two-thirds that level. Students in the upper two income groups have negative unmet need (i.e., they had resources including their families' contribution and any federal or state grant aid received *in excess* of the cost of attendance at their institution). For students in the highest income quartile, this negative unmet need was \$21,000 above the cost of attendance.

Lower-income students attending public institutions outside of their home state faced even larger levels of unmet need. For students in the bottom half of the income distribution, the unmet need was approximately \$10,000 greater than for in-state students in public institutions. Upper-middle income students faced unmet need of approximately \$6,800. In private institutions, students in the bottom two quartiles faced unmet need of \$25,000 or greater, while upper-middle income students had unmet need of \$17,500. In both types of institutions, students in the top income quartile had more than enough resources to cover the cost of attendance.

Figure 4.12 shows the levels of unmet need students faced *after* institutional grant assistance is included. By comparing Figs. 4.11 and 4.12, one can see the impact of institutional grant aid. For example, in-state students in the bottom income quartile in public institutions saw their unmet need reduced from \$10,152 to \$8,815, or 13% on average, through assistance they received from the institutions they attended. Students in the second income quartile saw a similar 16% decrease in their level of

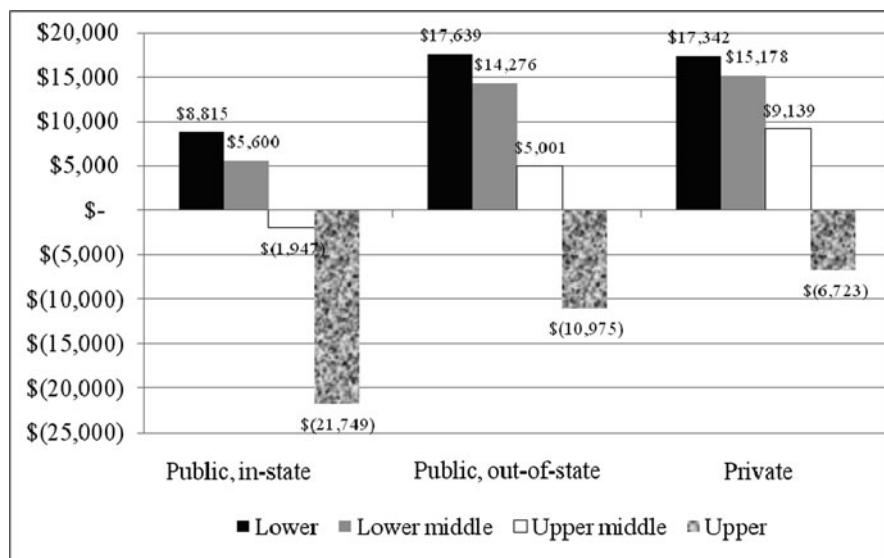


Fig. 4.12 Average unmet need after state, federal, and institutional grants, by institution type and income quartile. Note: Full-time, dependent students in 4-year institutions (excludes veterans and military grants). Source: Heller et al. (2010)

unmet need. Even with this reduction, however, both groups still faced unmet need in excess of \$5,000 per year in order to attend college. Students from families above the median income received additional grant aid from their institutions, even though they already had enough resources to meet the cost of attendance.

The other categories of students and institutions saw similar changes. Out-of-state students in the bottom half of the income distribution attending public institutions saw a 12% reduction in their unmet need after institutional grants were applied. Students in private institutions saw the largest drop in their unmet need—36 and 39%, respectively, for students in the lowest and lower-middle income groups. Students from the upper-middle income group saw an even larger reduction in their unmet need in private institutions, seeing their unmet need cut almost in half. And students in the top income quartile gained, on average, an additional \$5,745 in institutional grant assistance, even though they already had enough resources to meet the cost of attendance at the private institution they were attending. These larger percentages are reflective of the fact that private institutions, on average, discount tuition at higher rates than do public institutions (Davis, 2003; Heller, 2008; Lapovsky & Hubbell, 2003; National Association of College and University Business Officers, 2010; Redd, 2000).

It is important to note that Figs. 4.11 and 4.12 represent averages only for those students actually enrolled in college that year. They do not measure the impact of unmet need on students who *did not* attend college (or attended a community college or proprietary institution) because the financial barriers were so great.

Thus, even after the application of federal and state grant aid—the majority of which has remained focused on “the common man,” as recommended by the Truman Commission and the Higher Education Act of 1965—students from working class families still face large financial barriers to attending and persisting through higher education. The impact of these barriers on the college access, persistence, and degree attainment of low- and moderate-income families has been well documented in the work of the federal Advisory Committee on Student Financial Assistance (ACSFA). The ACSFA is an independent agency created by Congress in the 1986 reauthorization of the Higher Education Act to advise it and the Secretary of Education on federal student aid policy.

Over the last decade, the Advisory Committee has published a series of reports analyzing the effects the policy shifts noted in the previous section have had on postsecondary education equity (2001, 2002, 2006). For example, the most recent ACSFA (2006) report noted that

As in recent decades, financial barriers are a major factor in preventing large numbers of college-qualified students from earning a bachelor’s degree, particularly those from low- and moderate-income families. . . . We have failed to take accurate account of the impact of price barriers on our lowest income students, especially those who have prepared and planned for college. During the 1990s, between nearly 1 million and 1.6 million bachelor’s degrees were lost among college-qualified high school graduates from low- and moderate-income families.

The work of the Advisory Committee has focused on separating out losses in college access and degree attainment that are caused by differences in academic preparation,

versus those caused by the financial barriers of rising tuition prices and inadequate need-based grant aid.

Besides publishing its own research, the ACSFA has also commissioned papers to examine the differences in the impact on college participation of inadequate academic preparation as compared to financial barriers (Becker, 2004; Heller, 2004). These analyses helped to refute some official reports of the US Department of Education that concluded that financial barriers were playing little or no role in contributing to the gaps in participation.

Other aspects of the financial aid system can best be described as characterized by the Surrealism descriptors of “bizarre, incongruous, irrational, and pure fantasy.” As described earlier, in late 2007 and early 2008 a number of colleges and universities implemented new institutional grant programs that were described as need-based but moved the eligibility for these programs way up the income ladder. Harvard, for example, trumpeted its initiative—designed to reach families with incomes up to \$180,000 per year—with the headline, “Harvard announces sweeping middle-income initiative” (2007). Yet, an income of \$180,000 can hardly be described as “middle income”—at the time Harvard introduced its policy, an income at that echelon would place a family in about the top 5% of all families (Heller, 2007a).

Harvard described its new program as the “Zero to 10% Standard”:

Families with incomes above \$120,000 and below \$180,000 and with assets typical for these income levels will be asked to pay 10 percent of their incomes. For those with incomes below \$120,000, the family contribution percentage will decline steadily from 10%, reaching zero for those with incomes at \$60,000 and below.

Thus, a student from a family with an income of \$180,000 (and “typical assets”) would have to pay only \$18,000 toward the cost of her education, which in the year the program took effect, 2008–2009, totaled \$50,250 (National Center for Education Statistics, 2010a). That same student, however, would have had an Expected Family Contribution of approximately \$50,000 under either the federal methodology or institutional methodology, well in excess of the amount Harvard would ask the student to contribute.¹¹

Other universities quickly joined Harvard in expanding institutional aid to students from families of similar means. A week later, Swarthmore College, followed by the University of Pennsylvania a few days after that, followed suit (Boccella, 2007; Hardy, 2007). A little over a month later, Yale announced its initiative, upping the ante by extending the income eligibility up to \$200,000 (Yale University Office of Public Affairs, 2008). In the examples given in Yale’s announcement, a student from a family making \$180,000 would be expected to pay anywhere from \$14,150 to \$25,550 toward the \$51,400 cost of the education, an amount well below the calculated Expected Family Contribution.

¹¹Federal methodology is the formula used by the US Department of Education in assessing eligibility for Title IV student aid. Institutional methodology is the more liberal formula used by some institutions in determining need that uses a broader definition of student and family income and assets, which generally results in a higher Expected Family Contribution.

The rhetoric used in many of these announcements focused on the problem of what many have described as “middle class affordability” (Baird, 2006; McPherson, 2004; Roth, 2001). While many of these institutions had previously implemented institutional aid policies guaranteeing that certain students could attend without incurring loan debt, most of these programs were targeted at families with incomes up to \$60,000—right about at the median income in the nation and a level that most observers would agree falls smack-dab in the definition of “middle class.” By expanding the income cap of these programs up to levels as high as \$180,000 or even \$200,000 and describing them as a “sweeping middle-income initiative,” is it unfair to characterize the efforts as “bizarre” or “pure fantasy?”

Colleges and universities are not the only entities, however, that have expanded what had traditionally been characterized as “need-based” aid well into the highest income echelons of the nation. As described earlier, 14 states have developed broad-based merit scholarship programs that award grants to students based on academic criteria without consideration of financial need; as shown in Fig. 4.8, these awards go disproportionately to students in the higher-income groups. While 16% of states’ need-based grant dollars went to students from above the median income, 56% of the merit grants went to students in this group.

Two studies of the impact of state merit scholarships that I co-edited for The Civil Rights Project at Harvard University found that all of these programs, because of the merit criteria used in the awards, tend to funnel the benefits disproportionately to upper-income families (Heller & Marin, 2002, 2004). One study in the first volume that analyzed the impact of Georgia HOPE found that

Overall, the primary role of the scholarship has been to influence where, not whether high-school students attend college, but only a small fraction of HOPE expenditures affects college-going behavior at all. Over the first 5 years of the program, we estimate that HOPE raised total freshmen enrollment by about 3,800 students, which accounts for only about 4 percent of all freshmen awards during this period. *This indicates that 96 percent of HOPE expenditures had no impact on expanding college access in the state.* (Cornwell & Mustard, 2002, p. 71, emphasis added)

The most recent data on Georgia HOPE indicate that the state is spending approximately half a billion dollars on the program (National Association of State Student Grant & Aid Programs, 2009). The estimate of Cornwell and Mustard, then, would indicate that the state is only getting \$20 million worth of increased college access for its expenditures; the remaining \$480 million is subsidizing students who would have attended college somewhere even without the HOPE scholarship. This seems an irrational use of public resources, akin to providing food stamps to families who have more than enough of their own resources to feed themselves.

The fact that HOPE apparently has had little impact on college access is in conflict with the original intent of the program’s founder, former Georgia Governor Zell Miller. Miller proposed the program, to be funded by a new lottery in the state, when he was first running for the governor’s office in 1990:

In an effort to increase the percentage of Georgia high school graduates who attend college, Mr. Miller said he would establish a scholarship fund “to assist any high school student who achieves a grade-point average of a certain level, who enrolls at an accredited college

or university in Georgia, and whose family meets a certain income requirement.” He did not spell out income or grade-point average requirements. (Sherman, 1991, p. A1)

When the program was first implemented in 1993, the income cap of \$66,000 was more than twice the median income in the state of \$31,148 (U.S. Census Bureau, 2010b). As noted earlier, the sale of lottery tickets exceeded the initial estimates, however, so eligibility for the scholarships was expanded by raising the income cap to \$100,000 in the second year. By the third year, the income cap was eliminated entirely, thus pushing more awards even higher up the income ladder.

The distributional impact of the HOPE program was skewed even further toward higher-income students by the initial design, which effectively excluded students who were eligible for Pell Grants from participating. It required them to utilize their Pell awards to offset tuition costs before a HOPE scholarship could be awarded, a design referred to by one observer as “a kind of reverse means testing” (Callan, 2001, p. 88). Because the HOPE scholarship could be used only for tuition costs and not for other components of the cost of attendance (such as room, board, books, or transportation expenses) and because the maximum Pell award exceeded the cost of public college or university tuition in the state, Pell-eligible students received little or no HOPE scholarship dollars (the state has since rescinded this restriction). Since the introduction of the HOPE program, Georgia has reduced funding for its need-based grant program by 72% (National Association of State Scholarship and Grant Programs, [various years](#)).

It is not a stretch to think of the design of state financial aid programs like these as complying with the description of Surrealism as “irrational.” While many of these merit aid programs have articulated goals of increasing college access, staunching the brain drain of educated labor out of the state and encouraging students to work hard in school, the policy evidence that they accomplish any of these goals is very thin at best (Heller, 2002c). This may be a reason why the spread of these programs, which was very rapid in the decade after Georgia HOPE was first launched, has since slowed.

The final art movement to be applied as a way of understanding the current status of the nation’s financial aid system is Cubism. As noted earlier, this movement was characterized by “shapes . . . so remotely related to the original form of the object that they seem almost to have been invented rather than derived” and “a new reality in paintings that depicted radically fragmented objects.” Both the Truman Commission in 1947 and the Higher Education Act of 1965 emphasized the purpose of financial aid as helping students from families with inadequate resources to be able to afford to attend college. States, in the development of their own grant programs following creation of the federal State Student Incentive Grant program in the 1972 reauthorization of the Higher Education Act, also emphasized college access as a goal. Institutions, too, historically have focused their aid on helping address access for low- and moderate-income students.

As one reviews the higher education landscape today, it is easy to characterize the system as having “shapes . . . so remotely related to the original form of the object that they seem almost to have been invented rather than derived.” Many financial

aid programs today have little in common with their original purpose. While the federal government has remained focused on using means-testing in the awarding of grant aid, state grant programs have moved more toward substituting merit criteria for financial need, and institutional grant programs have followed suit. Figure 4.13 shows the change between 1995 and 2007 in the proportion of state and institutional grants awarded without consideration of financial need. The proportion of state grants has increased from 14% in 1995 to 30% in 2007. For institutions, the proportion has increased from 35 to 55% during the same time period.

The financial aid system can also be characterized as fragmented, especially from the perspective of students trying to gather information about financial aid. Students, particularly those from first-generation and low-income families, have difficulty getting adequate and timely information about the financial aid for which they may qualify and desperately need (Advisory Committee on Student Financial Assistance, 2005; McDonough & Calderone, 2006; Perna, 2006). Typically, students do not have the information necessary to calculate their net cost of college (after taking into account financial aid) until they receive a financial aid offer from a university during the spring of their final year in high school. If students base their college enrollment plans on the sticker price of college rather than the net price after aid, they are more likely to conclude they cannot afford to attend.

There is no one place for students to go to obtain their eligibility for all the different forms of financial aid for which they may qualify. Some websites, including one provided by the US Department of Education (see note 9), allow students to calculate an estimate of their Expected Family Contribution and likely eligibility for a Pell Grant, but it is difficult today for most students to estimate their eligibility

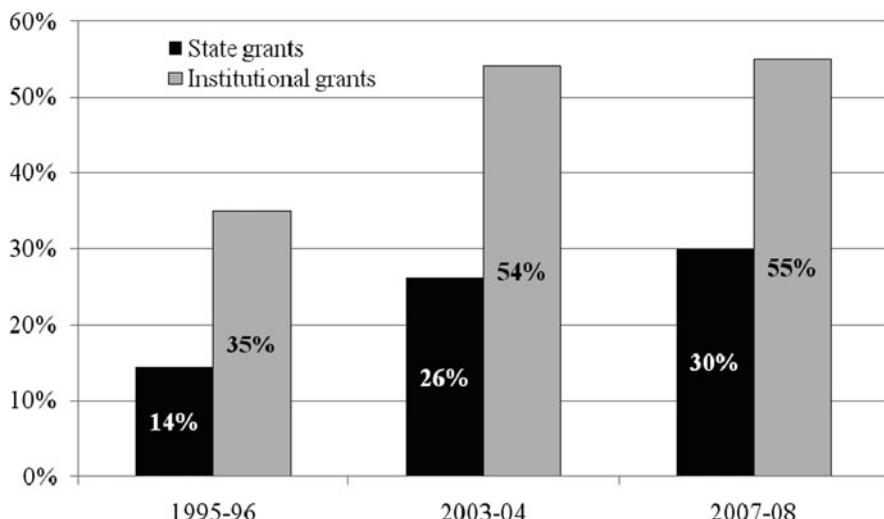


Fig. 4.13 Proportion of total grant aid awarded to undergraduates without means-testing. Source: Heller (2006), author's calculations from National Center for Education Statistics (2010d)

for state and institutional grants. The latest reauthorization of the Higher Education Act, also known as the Higher Education Opportunity Act of 2008, has a provision (Section 111) requiring institutions to make available on their websites a “net price calculator,” which will allow students to estimate what their true net cost will be. This requirement has not gone into effect, however, so it is too early to determine just how useful this information will be for students. Since many colleges package institutional aid for students on an individual basis, particularly merit aid, it is unclear how accurate the “estimates” will be.

The financial aid system is also fragmented from the perspective of public policy. The federal government has responsibility for the Title IV grant, loan, and work study programs, as well as other programs such as tax credits, regulations regarding private student loans, and a small number of undergraduate fellowship programs in other agencies. The states each develop their own grant programs, often multiple programs per state, in addition to some states that have loans. Generally the decisions about structure and funding for these programs are made in isolation of the federal financial aid programs, subject to the political and fiscal pressures in each of the states.

Colleges and universities do have to comply with state and federal regulations when awarding aid from those programs, but they have great latitude in decisions on awarding their own institutional aid. As described earlier, they can use their own criteria for determining which students are financially needy and for how much institutional aid they should qualify, independent of the dictates of federal methodology. The awarding of merit-based institutional grants is entirely at the discretion of each college and university.

The result of this disconnect between the various aid programs is that they often work at cross-purposes. While some, such as the federal Pell Grant program and state need-based programs, are primarily focused on promoting access for low- and moderate-income students, others—such as state and institutional merit grants—have more of an impact on the college choice decisions of students who are already committed to attending postsecondary education.

Conclusion

Examining the financial aid system through the lens of these three art movements—Realism, Surrealism, and Cubism—allows one to see the strengths and weaknesses of the various parts of the system and how those components do or do not help achieve some of the historical objectives the nation has had with respect to college participation. In contrast to many other countries around the world, the United States has always had, and likely will continue to have, a more decentralized higher education system with authority distributed among the federal government, the 50 states, and the over 6,000 institutions of postsecondary learning. This devolution of authority, which is often cited as one of the contributors to the quality of the American system, also means that addressing issues of public policy and higher education is a more challenging task than elsewhere.

Parts of the financial aid system, such as the federal Title IV programs, have remained largely consistent with the earlier objectives of promoting access to college for groups who have historically been underrepresented. As described earlier, these groups—including racial minority students and those from low-income families—would be considered in concert with Realism’s focus on “the common man.” Just as Realism sought to bring commoners out from the shadows and into the forefront as subjects in paintings, the Title IV programs have focused on bringing these same individuals into the forefront of higher education by providing them with access to postsecondary education that a generation or two ago was largely reserved for more privileged sectors of society.

The question remains of why federal financial aid has remained largely committed to the purposes articulated in the Higher Education Act over 45 years ago, while state and institutional aid has drifted toward the pursuit of other goals. Hearn (1993) examined what he described as the “paradox” of the growth in federal student aid, in light of the fact that traditional policy theory finds little rationale for the support it has enjoyed. Sociologist Theda Skocpol (1991), for example, has written about the trade-off between highly targeted social programs, which have the benefit of maximizing the use of public resources, and more universal programs that are a less-efficient use of resources but may garner more widespread political support.

One possible explanation Hearn (1993) posits is what he describes as “entrenched governmental bureaucracies”:

entrenched governmental bureaucracies, supported by the institutionalization over time of certain policies associated with those bureaucracies, maintained enough structural and procedural weight to deflect and defuse reform. (p. 124)

The longstanding support for Pell Grants, for example—which are highly targeted at individuals whom most would agree are not particularly empowered in the political process—by this explanation would be because they have become entrenched first in the Office of Education and later in the Department of Education. The Pell Grant program itself has rarely been examined by Congress or presidential administrations with the possibility of shutting it down or making radical structural changes; rather, the debates have generally been over levels of funding. This is in contrast to other Department of Education postsecondary programs, such as the TRIO programs or the SSIG/LEAP program, which have faced being eliminated in the past (Selingo, 2005).

The federal Title IV programs have not been immune from pressures for broadening their scope. As described earlier, the Middle Income Student Assistance Act in the late 1970s was a direct effort to widen the narrow targeting of both Pell Grants and subsidized student loans in order to make them available further up the income ladder. While this effort was initially successful, the changes were rolled back a few years later and both programs returned to their more narrowly targeted beneficiaries.

In contrast to the federal Title IV programs, other parts of the financial aid system—particularly state and institutional grants—have changed quite a bit over time toward the pursuit of very different goals. I have shown how some of these changes can fairly be described as incongruous, irrational, fragmented—descriptors

of the Surrealism and Cubism movements—and at best be remotely related to much of financial aid's original purposes.

Why then have state and institutional aid programs—which began originally with largely similar goals of promoting access and equity—changed so much in comparison to the federal Title IV programs? To answer this question requires an examination of the two entities separately.

State grant programs are publicly funded and controlled, as are the Title IV programs, and many came about as a result of the State Student Incentive Grant program passed as part of the 1972 amendments to the Higher Education Act. They are the province of each of the states, however, and decisions regarding their structure, targeting, and funding levels are made by state legislatures and governors. Each of the states is a laboratory for innovation, with postsecondary policies subject to the local political culture (McLendon, Heller, & Young, 2005). State governments are subject to more rapid change in control and political orientation due to factors such as gubernatorial and legislative term limits, and therefore, new policies—including in the postsecondary financing domain—are more likely to be implemented (McLendon, Deaton, & Hearn, 2007).

Institutional financial aid programs enjoy a mix of governance control. In private colleges and universities, decisions about these programs are the domain of the leadership (boards and administration) of the individual institution. These institutions have responded to the competitive higher education marketplace by more frequently using their student aid programs for the enrollment management purposes outlined earlier, rather than for promoting educational equity and access for historically underserved populations (McPherson & Schapiro, 1998, 2002). This shift has caused their structure to deviate from the historical patterns and from the purposes that still bind the federal Title IV programs.

Like their private counterparts, most public colleges and universities also generally control their own student aid programs. Depending upon the state, though, these programs may also be governed at least in part by state regulations that limit the autonomy of institutional decision-making. The trend in recent years, however, is more toward devolution of authority from the states to individual public colleges and universities or systems (MacTaggart, 1998; McLendon, 2003). As this has occurred, public colleges and universities look and act more like their private counterparts, using student aid to pursue narrow institutional interests at the expense of public goals such as educational equity and improving access.

What does the future hold for the trends described in this chapter? The role of financial aid in promoting educational equity is still very much at the forefront of federal higher education policy. The Spellings Commission—a review panel formed by former Secretary of Education Margaret Spellings during the Bush administration—clearly articulated the notion that the country was far from having achieved the goals outlined by President Lyndon Johnson when he signed the Higher Education Act into law in 1965. The Commission stated

Too few Americans prepare for, participate in, and complete higher education—especially those underserved and nontraditional groups who make up an ever-greater proportion of the population . . . We found that access to higher education in the United States is *unduly*

limited by the complex interplay of inadequate preparation, lack of information about college opportunities, and persistent financial barriers (U.S. Department of Education, 2006, p. 8, emphasis in the original).

To address the financial barriers, the Commission called for “providing significant increases in aid to low-income students” (p. 17), a recommendation many were surprised to see coming from a panel formed by a Republican administration. President Obama’s higher education agenda has focused on similar efforts, including more spending on Pell Grants and increased funding for community colleges, the entry point to postsecondary education for many low-income and minority students (Field, 2009).

Are the student aid trends in the states and among higher education institutions that have been so divergent from federal policy likely to be reversed or even abated? There are some promising trends, such as the approximately 30 institutions that have made strong financial aid commitments to students from low- and moderate-income families (The Project on Student Debt, 2008). But this group represents a very small and elite sector of higher education, and evidence indicates that the majority of institutions with substantial financial aid programs are still focusing their resources on meeting institutional enrollment management goals. The development of state merit grant programs, which was so prominent in the late 1990s and early 2000s, appears to have slowed in recent years. But funding for states’ need-based grants, which generally mirror the purposes of federal Pell Grants, is still very much at the whim of fiscal conditions in most states and generally suffers during economic downturns.

While there are some continuing commitments to equal opportunity goals, the political landscape in the nation has shifted from the days of President Lyndon Johnson’s Great Society, when a number of government programs designed to address the underclass of American society were put into place. It is hard to imagine the country returning to an era when equality of opportunity will be the almost universal goal of financial aid programs.

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Chapter 5

Inside the Panopticon: Studying Academic Reward Systems

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Academic reward systems in the United States have been compared to the panopticon prison in Foucault’s (1977) *Discipline and Punish*. In this comparison, the prisoner (or faculty member) is threatened by constant observation. While the gaze is intermittent, the prisoner (or faculty member) never knows if he/she is being watched, and this causes him/her to regulate their behavior (Bass, 1999). The comparison to a prison is ironic given relatively high reported faculty satisfaction in what is widely considered a preferred and privileged profession. Yet, this image of the individual being “disciplined” or socialized toward a certain set of behaviors through an ambiguous set of incentives and constraints serves to remind us of the complexity of the experience of being inside a reward system, and of trying to study it from the outside.

This chapter reviews the research and literature on the inner workings of academic reward systems and is informed by critical theory and standpoint theories. Such theories consider actor’s positions in structures of power (e.g., Harding, 1991). This lens is helpful in framing literature on reward systems because most of the major questions that have been asked in this area focus on the fairness of distribution of rewards. Critical theory and standpoint theories are often employed as a foundational set of assumptions from which to ask if other factors (such as gender or race, time spent on certain work activities) advantaged or disadvantaged faculty in their particular organization, with its own structures of power (O’Meara, Terosky, & Neumann, 2008). The prisoner in the panopticon image also relates to a perceived organization and makes choices to maximize their status within it. This review is also influenced by the study of organizational behavior in higher education and the processes by which different aspects of structure and culture interact to produce specific outcomes (Birnbaum, 1988, 1992; Senge, 1990).

The purpose of this chapter is to explore the enigma of the academic reward system, broadly defined as *the many ways in which an institution and field regards faculty—including, but not limited to, how it recruits, sustains, assesses, and*

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advances faculty throughout their careers (O'Meara et al., 2008). The use of the word "regard" as opposed to "reward" in the definition is intentional. The Free Dictionary.com defines a reward as "something given or received in recompense for worthy behavior or in retribution for evil acts" and "the return for performance of a desired behavior" (cited in O'Meara et al., 2008, p. 93). While this definition of "reward" aptly captures the rational, exchange aspect of reward systems (e.g., an individual engages in the desired behavior or not and is granted a favor or penalized) it does not capture (a) the ever-present, ongoing system of participation, action, and consequences represented by Foucault's image of a panopticon or (b) irrational exchanges wherein bias as opposed to merit dictates rewards or (c) more fluid and broader patterns of attention or disregard. The etymology of the word "regard" refers to how something is looked at, cared for, considered, respected, held, or taken into account (O'Meara et al., 2008). Here, system is conceived of as "a group of interacting or interdependent elements forming a complex whole" (Free Dictionary cited in O'Meara et al., 2008, p. 93).

This definition of a reward system as a set of interconnected and interacting elements that work together (and against each other at times) to regard, ignore, or disregard faculty and their contributions presents a broader perspective than the simple exchange of favor and disfavor for particular acts. It acknowledges that reward systems operate as both structure and culture. They operate as a central motivational and cultural force in the academic lives of full-time faculty, socializing, penalizing, rewarding, and shaping faculty behavior. Lest they be understood as the dependent variable in this equation, however (Neumann, 2009), faculty also transform and shape reward systems through their participation in them. This definition presents faculty as regarded in different ways throughout their career, by different institutions and fields, and through different elements of the system and is therefore used to conceptualize reward systems in this chapter. In the remaining sections of this introduction I identify the significance of research on academic reward systems, briefly review major research completed 1975–2010, and outline guiding questions and the organization of the rest of the chapter.

The Significance of Studying Academic Reward Systems

There are four key reasons why it is both timely and significant to review the literature on academic reward systems now. First, academic reward systems are in fact, "the valuing of people's professional lives," (O'Meara, 2002, p. 77), and as such, matter to faculty. A key issue asked by Gaston (1978) in the *Reward System in British and American Science* and again by Park (1996) (with regard to gender) and Fairweather (1996, 2005) (with regard to type of work emphasized) is whether faculty get what they deserve. Are faculty members' reward systems fair? Much literature on organizations shows that individual satisfaction and productivity are affected by perception of justice in the work environment (Daly & Dee, 2006; Martin, 2005). Revealing the ways in which academic reward systems can operate more fairly could benefit organizational climate, faculty morale, and productivity.

Even beyond fairness, reward systems and perceptions of them have been found to be a major source of extrinsic motivation (Austin & Gamson, 1983), influence on behavior and productivity (Blackburn & Lawrence, 1995; Bland, Center, Finstad, Risbey, & Staples, 2006; Schuster & Finkelstein, 2006), and a factor in retention and turnover (Daly & Dee, 2006; Rosser, 2004). Reward systems have been found to shape faculty priorities and decisions with regard to time allocation and workload (Fairweather, 1996, 2005; O'Meara, 2005a). The process by which reward systems shape behavior has been studied in many ways including but not limited to how they serve as cultural socialization, motivation, psychological contract, marketplace, and system. Regardless of how academic reward systems work, we need to study them because they matter in the personal and professional lives of faculty, who are central to the delivery of teaching, research, and service missions.

Second, important decisions are being made within academic reward systems based on assumptions instead of evidence. For example, over the last 30 years academic reward systems have been dramatically shifting toward the non-tenure track (Gappa, Austin, & Trice, 2007; Schuster & Finkelstein, 2006). Yet, there is no significant body of evidence that shows that part-time faculty better serve institutional needs or even necessarily increase flexibility. Faculty unions have repeatedly bargained to maintain tenure track lines, arguing that it is this distinct reward system that protects academic freedom for all and attracts the most talented into the profession. Yet, much has changed regarding what faculty want and need since the traditional tenure process was created, and it is not clear the tenure system is achieving these goals today (Trower, 2008, 2009). As institutions navigate the creation of more diverse kinds of appointments it will be critical to understand the strengths and weaknesses of past reward systems to create options that best meet individual and institutional needs. Mallon (2002) studied similar type campuses with tenure and without tenure and found that both struggled with the same issues of faculty productivity and how to support it in their reward systems. While it has been difficult for researchers to get inside the rooms where promotion and tenure decisions are made, the process by which faculty contracts are renewed or terminated is even more opaque. Researchers could make an important contribution to the major decisions being made within academic reward systems by investigating these areas as questions to be explored, as opposed to unexamined positions to be defended. This chapter takes such an approach by considering the limited extant research on appointment type and performance and the types of questions we need to ask to make better institutional decisions.

Third, the most important questions we might ask remain unanswered, essentially black boxes. In part, this is because of the complexity of the topic, in part because of the limitations of the theories and methods we have used to date, and in part because researchers have not taken them on. For example, despite decades of research, we do not know if the actual (as opposed to assumed) benefits of a particular academic reward system outweigh the known financial and psychological costs to individuals or institutions. Some reward systems may operate in generative ways to improve higher education outcomes, others to maintain the status

quo, while others may end up costing individuals, institutions, and even fields of study more than they contribute. We have some, though very limited evidence that connects aspects of academic reward systems directly with student learning outcomes (e.g., Jaeger, Thornton, & Eagan, 2007; Umbach, 2006, 2007b). Yet, even these studies are more descriptive in nature, creating a picture of the characteristics of faculty who use high impact student learning practices and are most likely to retain students. This is very different than understanding how conditions within a reward system motivate, socialize, incentivize, and work synergistically to facilitate excellent teaching and learning. We have studies that have looked at research productivity within different appointment types, but rarely at whether certain kinds of reward systems are more generative for the quantity and quality of scholarship produced (one exception is Bland et al., 2006). We also have studies that show faculty report community engagement is not rewarded (Abes, Jackson, & Jones, 2002; Aguirre, 2000). Yet, few studies have considered how reward systems have accommodated or encouraged engagement and whether it influences its' quality when they do.

A common refrain from both faculty and administrators is that their institutional missions and reward systems are out of alignment, overly impacted by the status system of higher education, rather than institutional needs and mission. We know many campuses have experienced positive outcomes from revising reward systems to include a broader definition of scholarship (O'Meara, 2006; O'Meara & Rice, 2005), but not whether this change cost them or gave them a competitive advantage back in the national market of institutions. We know that over time, more faculty across 4-year institutional types are engaged in research (Milem, Berger, & Dey, 2000), but less about the short- and long-term consequences of this for institutions. There are obvious difficulties in tracing lines between the way an entire reward system works, and such outcomes, especially because of all of the intervening variables that come into play. There are also challenges in trying to measure aspects of human performance (such as a major scientific breakthrough, excellence in teaching, or superb leadership in shared governance) and rewards for that performance that are in fact immeasurable or at best slippery (e.g., recognition from an esteemed colleague, knowledge that a discovery will improve society). Also, external influences such as those related to the economy, ranking systems, technology, and federal funding for research are changing the landscape of individual campus reward systems faster than scholars can map the territory. Perhaps because of these difficulties, researchers have focused on the aspects of reward systems that can be quantified and more easily analyzed together (e.g., this many courses taught results in this average pay). This chapter reviews research, theory, and methods to identify new questions regarding the relationships between the elements of reward systems and individual and institutional outcomes.

Fourth, academic reward systems send a powerful signal to external actors about what an institution has been, is now, and wants to be. Reward systems present an opportunity (though perhaps rarely taken) for an institution to differentiate itself from other institutions, to mark itself as unique. Reflected in reward systems are the greatest aspirations of its leaders, its greatest insecurities, and a distribution

of power. Every higher education leader with a serious idea about reform at some point has to address the academic reward system in order to institutionalize that reform. As such, academic reward systems, like faculty, are at the heart of higher education. As enacted by participants in a system, they can either pave the way for change, for example, by establishing norms and incentives toward a particular set of activities, they can ignore the change altogether, or they can create disincentives toward it. If understood well, reward systems can be much more than window dressing—they can be central to reform. As such reward systems require greater study to understand how to wield them. This literature review and analysis is intended to help researchers better understand some of the unanswered questions raised in this introduction and to consider new theories and methods to use in future research.

Major Research on Academic Reward Systems 1975–2010

Academic reward systems have been the subject of significant scholarship over the last 35 years. Much of the discussion of reward systems has been embedded in larger examinations of the academic profession more broadly. A recent review of the literature on faculty work-life reviews such book-length work and peer-reviewed articles on faculty more generally (see O’Meara et al., 2008). However, there has also been book-length works with a more specific focus on reward systems which are important to mention as a backdrop for this review. Some of the most comprehensive work on reward systems had focused on faculty in the sciences. For example, in 1978 Gaston wrote *The Reward System in British and American Science*, an examination of whether academic scientists in biology, chemistry, and physics in the United States and Britain get the recognition and esteem that they deserve given their accomplishments. Using Robert K. Merton’s theory (1957, 1968) on the norms of science, Gaston wanted to know whether universalism prevailed or whether differences in disciplines and organization of science in particular nations influenced the distribution of rewards. Analysis of career data from 600 scientists revealed ways in which the system operated consistent with the norms of universalism and particularism (or bias). In the last 15 years, as national attention has turned toward US progress in science compared to other developed countries, there has been greater attention to the careers of academic scientists and reward systems, particularly as they relate to gender concerns (e.g., Bystydzienski & Bird, 2005; Hermanowicz, 2009; Rosser & Hermanowicz, 2004; Stewart, Malley, & LaVaque-Manty, 2007; Valian, 1999; Xie & Shauman, 2003). Each of these books considers structural and cultural roadblocks in the careers of scientists and how they differ by faculty of different backgrounds and disciplines in navigating reward systems.

In 1990, Ernest Boyer’s Carnegie Foundation Report *Scholarship Reconsidered* introduced a new framework for the evaluation of scholarship. Books and monographs that followed its implementation across colleges and universities (Braxton, Luckey, & Helland, 2002; Glassick, Huber, & Maeroff, 1997; O’Meara & Rice,

2005) have informed further reform of reward systems, particularly in the United States. Along this same line Fairweather's (1996) examination of the relative value of teaching, research, and service in how faculty are rewarded in American institutions built on Gaston's work and revealed the dominant role of research in US reward systems. Following on this theme, there have been many books written to Chief Academic Officers in the practitioner world with cases and recommendations for assessing faculty work in ways that align academic reward systems and mission (e.g., Braskamp & Ory, 1994; Diamond, 1999; McMillan & Berberet, 2002). Creamer's (1998) examination of faculty publication productivity revealed how preference for specific work activities like teaching, as well as discipline, and institutional type relate to how rewards are accumulated. Chait (2002) and colleagues took on what he referred to as the "abortion issue" of the academy with his book, *Questions of tenure* where both survey and case study research informed our knowledge of where and in what cases tenure matters to such issues as faculty recruitment, shared governance, and faculty productivity. As the trend toward non-tenure track appointments gained momentum we have had several books examining the characteristics of non-tenure track versus tenure track faculty, aspects of their work-life, and reward systems (e.g., Baldwin & Chronister, 2001; Gappa & Leslie, 1993; Gappa et al., 2007; Schuster & Finkelstein, 2006).

The subject of how faculty become socialized to norms within reward systems has been studied from a cultural lens by Tierney and Bensimon (1996) and Tierney and Rhoades (1993). Many scholars have explored how such socialization differs for women and faculty of color (e.g., Aguirre, 2000; Cooper & Stevens, 2002; Evans & Chun, 2007; Glazer-Raymo, 2008; Turner & Myers, 1999). In addition, the role academic capitalism plays in academic reward systems has been of increasing concern (Rhoades, 1998; Slaughter & Leslie, 1997; Slaughter & Rhoades, 2004). Austin and Gamson (1983) and Blackburn and Lawrence (1995) both explored the motivational aspect of reward systems. As a counterpoint to these primarily US-based examinations of academic reward systems, Altbach (2003) provided comparative research on the condition of faculty and reward systems in developing and middle-income countries.

This brief review of book and monograph length works over the last 30–35 years in the field of higher education reveals several limitations of extant research. First, most of the research and literature to date has focused on one aspect of reward (e.g., how women and minorities fair in them or how teaching is valued) rather than looking more broadly at the overall condition of reward systems, their elements, and how they work. Second, most of these longer works have looked at their particular issue from either one theoretical perspective or lens, such as socialization theory or from a practitioner perspective of reform, rather than compared perspectives used to study academic reward systems. Third, there is no extant research that assesses the landscape of research on academic reward systems in the United States and considers what we know and where research needs to go next.

Guiding Questions and Organization of the Chapter

This literature review attempts to address the limitations identified above in previous work. The chapter is guided by a set of guiding questions that serve to organize the discussions and conclusions. These guiding questions are as follows:

- What are the key elements of academic reward systems? Where has there been more or less study?
- How do these key elements work together to influence outcomes? What are the primary and secondary outcomes of academic reward systems? How does the evaluation of faculty performance in teaching, research, and service influence these outcomes?
- How have reward systems in the United States changed over the last 30 years?
- What theories and methods have been used most often to study academic reward systems? Where have these theories and methods limited our view and how might they be expanded in future research? What have we learned about academic reward systems that are useful for their reform? What new areas of research are needed?

This literature review builds on previous work by Gaston (1978) by considering issues of reward system among all academics rather than primarily scientists. It extends our general knowledge of reward system by not focusing on one particular issue (such as women and minorities or academic capitalism) but reviews both research and theory relevant to all major issues in reward systems today and in the future. The review was confined to peer-reviewed articles and paper presentations, books, and book chapters completed from 1980 to 2010.

Section “Elements of Academic Reward Systems and How They Work Together” of this chapter examines extant research on the elements of academic reward systems and how they work together. The following section considers dominant theoretical frameworks and methods that have been used to study academic reward systems. Recent trends and reforms in academic reward systems from 1990 to 2010 are presented alongside the problems and opportunities they raise for faculty, departments, chairs, deans, and all those who work to attract, retain, and reward faculty. The last section considers what we have learned over the last 20 years of studying academic reward systems that is useful for reform and suggests new areas for research.

In limiting the scope of the paper, the focus is on academic reward systems and faculty experience of them—rather than on faculty themselves or a broader look at working conditions. This review explores academic reward systems for full-time faculty in 4-year institutions. The focus is on US academic reward systems rather than a comparative examination, given space considerations. Discussion of overall work-life conditions, faculty career stage, and faculty development will only be addressed as they intersect with experience and outcomes of academic reward systems. It is difficult to untangle these, however, as most scholars that have

studied the academic profession have rightly looked at the multiple influences on academic careers, of which reward systems are a major part, but a part of a larger story.

Elements of Academic Reward Systems and How They Work Together

Scholars have studied many different elements of academic reward systems. The purpose of this section is to (a) outline the major elements in an academic reward system and the scholars who have studied them and (b) consider what extant research has found regarding the interactions of these elements as inputs, processes, and outcomes of a system. This is accomplished in three ways. Figure 5.1 visually represents these different elements and categorizes them broadly as inputs, processes, and outcomes. Tables 5.1, 5.2, and 5.3 outline research studies on each of the different elements and aspects of them. Finally, the narrative in this section presents and analyzes major research studies on how academic reward systems work.

The study of college student experience and success has been guided by Astin's (1993) "input-environment-output (IEO) model." This model underscores the importance of entering student characteristics and previous experiences and beliefs on later outcomes and how the college environment (the size, control, and

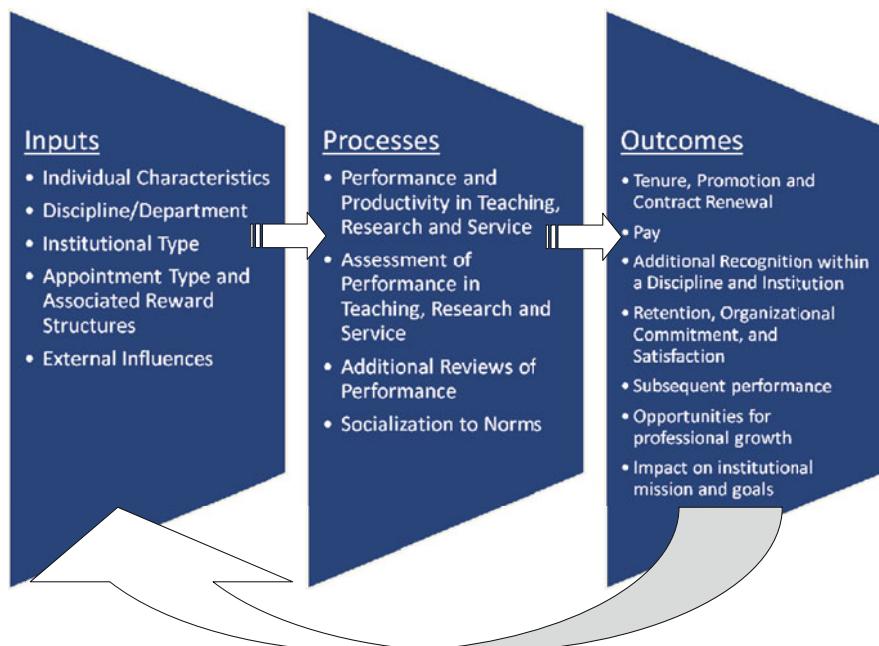


Fig. 5.1 How academic reward systems work

Table 5.1 Elements of a reward system and studies of them: inputs

Elements	Examples of topics studied and citations
Individual characteristics	Characteristics of faculty at first appointment (gender, race, age, professional background, human capital) (Schuster & Finkelstein, 2006); differences in experience by race, ethnicity, and gender (Aguirre, 2000; Perna, 2001a; Smart, 1991) and role of family ties (Perna, 2005)
Appointment type and associated reward structures	Role of appointment type and associated reward structures in productivity and commitment (Bland et al., 2006; Mallon, 2002); departure (Zhou & Volkwein, 2004); non-tenure track faculty recruitment (Trower, 2002); and motivation (Bess, 1998)
Discipline/department	Role of discipline and field in academic reward system structures and cultures (Becher, 1989; Braxton & Hargens, 1996; Gaston, 1978), discipline and productivity (Creamer, 1998), demand and supply (Bowen & Sosa, 1989), salaries (Bellas, 1997b), and turnover (Xu, 2008)
Institutional type	Role of institutional type in reward systems and expectations of faculty (Clark, 1987; Finnegan & Gamson, 1996; Ward & Wolf-Wendel, 2007) and evolution of promotion and tenure rules (Youn & Price, 2009)
External influences	Role of external influences, such as ranking systems and competition (Hazelkorn, 2009; IHEP, 2009) and financial conditions (Bowen & Sosa, 1989; Clotfelter, 1996; Youn, 1989) on the academic labor market and reward systems

Table 5.2 Elements of a reward system and studies of them: processes and experiences

Elements	Examples of topics studied and citations
Performance and productivity in teaching, research, and service	Faculty productivity across roles (Blackburn & Lawrence, 1995; Braxton et al., 2002; Fairweather, 2005; Gappa et al., 2007; Schuster & Finkelstein, 2006; Braxton, 1983; Long, 1992)
Assessment of teaching, research, and service and measurement of overall productivity	Assessment of faculty productivity (Blackburn & Lawrence, 1995, Porter, 2007) scholarship and other faculty work overall (Braxton et al., 2002; Centra, 1993; Diamond & Adam, 1993; Miller, 1994); assessment of engaged scholarship and professional service (Driscoll & Lynton, 1999; O'Meara, 2002; Saltmarsh et al., 2009); assessment of teaching via student evaluations (Centra, 1993); conflicts over promotion and tenure in departments (Hearn & Anderson, 2002)
Additional reviews of performance	Merit pay allocation models (Wenger & Girard, 2000); experience of and outcomes from post-tenure review (Aper & Fry, 2003; Goodman, 1990; Licata & Morreale, 2002, 2006; O'Meara, 2004; Wood & Johnsrud, 2005)
Socialization toward norms	Socialization and experiences on the tenure track (Tierney & Bensimon, 1996; Tierney & Rhoads, 1993)

Table 5.3 Elements of a reward system and studies of them: outcomes

Elements	Examples of topics studied and citations
Promotion and tenure and contract renewal	Promotion and tenure decisions and what matters most in faculty evaluation (Braxton et al., 2002; Fairweather, 2002, 2005; O'Meara, 2002; O'Meara & Rice, 2005; Youn & Price, 2009)
Pay	Pay and equity, especially by gender, race, and marital status (Balzer & Bourdreau, 1996; Barbezat & Hughes, 2005; Becker & Toutkoushian, 2003; Hagedorn, 1996; Luna, 2006; Perna, 2002; Smart, 1991; Snyder & Hyer, 1994; Toutkoushian, 1994, 1998a; Toutkoushian et al., 2007); disciplinary differences and institutional type differences (Bellas, 1997b; Hanley & Forkenbrock, 2006; Bellas, 1997a), salary compression, pay discrimination (Eckes & Toutkoushian, 2006); value of teaching and research in faculty salaries (Fairweather, 2005); satisfaction with salary, pay, and maximization of prestige (Melguizo & Strober, 2007); salary compensation models and goal modeling (Herzog, 2008; Stewart & Dalton, 1996; Toutkoushian, 1994; Twigg, Valentine, & Elias, 2002); effects of rank (Strathman, 2000); loyalty tax (Barbezat, 2004); effect of experience and job tenure on salaries (Barbezat, 2003); effect of visibility and specialization (Leahy, 2007); adjustments based on market (Nichols-Casebolt, 1993)
Recognition within one's institution and field	Role of teaching awards in academic reward systems and what they reward (Chism, 2006; Chism & Szabo, 1997; Menges, 1996; Middleton, 1987; Warren & Plumb, 1999); role of appointments to be editor-in-chief of journals, prestigious disciplinary association research awards and presidencies, visibility and specialization, nominations for science panels and academies (e.g., National Academy of Science, Nobel prize) (Braxton, 1986; Leahy, 2007; Long & Fox, 1995)
Retention, organizational commitment, and satisfaction	Role of reward systems in faculty retention and organizational commitment (Daly & Dee, 2006; Johnsrud & Rosser, 2002; Rosser, 2004) and satisfaction (Gappa et al., 2007; Hagedorn, 2000; Schuster & Finkelstein, 2006)
Subsequent performance	Role of reward system elements in scaffolding performance and productivity (Blackburn & Lawrence, 2005; Bland et al., 2006; Jaeger, 2007; Umbach, 2007b)
Opportunities for professional growth and intrinsic rewards	Role of reward system elements in professional growth and intangible rewards (Gappa et al., 2007; Hagedorn, 2000; Lindholm et al., 2005; O'Meara et al., 2008)
Impact on institutional mission and goals	Promotion and tenure reform and effect on faculty behavior and academic cultures (O'Meara & Rice, 2005; Rice & Sorcinelli, 2002); tenure as a problem and solution to faculty productivity (Mallon, 2002); promotion and tenure and protection of academic freedom (Fossey & Wood, 2004)

diversity of the institution) mediates any student learning outputs. This general concept of inputs, processes, or environmental experiences, and outcomes is also common in many models of organizational change and in systems theory. While the inner workings of academic reward systems are complex, this relatively simple design is useful for mapping the landscape of how academic reward systems work. This is not an exhaustive list of inputs, processes, and outcomes or of studies completed in the last 30 years to study them, but is meant to be illustrative of the major conceptual pieces in the study of academic reward systems.

Four assumptions guide the organization and presentation of extant research on the elements of academic reward systems and how they work in this section. First, academic reward systems act as a source of motivation for faculty. For example, Austin and Gamson (1983) argued that reward systems operate as an important source of extrinsic motivation for faculty. As faculty receive professional development or travel funds, awards, merit pay, contract renewal, and tenure or promotion, they are receiving positive feedback that encourages them to behave in one way or another, such as to continue a specific research agenda or to take on more advisees for the department. Likewise, Blackburn and Lawrence's (1995) research showed that it is the dynamic interaction between social knowledge (what the faculty member sees his/her social environment valuing) and self-knowledge (what the faculty member believes he/she does best and wants to do) that shapes faculty behavior. Such research is consistent with studies on other highly autonomous professionals such as physicians, government personnel, and entrepreneurs who work in complex organizations for whom reward systems act as one of many potential motivators (Bland et al., 2006; Deming, 2000; Senge, 1990).

A second assumption throughout this section is that academic reward systems operate at individual, institutional, and environmental levels across the three kinds of elements. For example, while individuals are socialized in ways that interact with their individual characteristics, they are being socialized simultaneously to a department and discipline, and the socialization process is impacted by external conditions (such as the job market or expectations-related federal funding). A third assumption is that while a particular element and studies of it may have been placed in one part of the figure, most of the studies and topics represented could easily be placed in more than one place. For example, studies of appointment type and turnover could be placed in an outcome section or one focused on input characteristics or appointment type. A fourth assumption is that inputs or starting points in reward systems such as discipline and institutional type, appointment type, and individual demographics influence the processes and environment of the reward system which in turn influence outcomes such as success in promotion and tenure or satisfaction. However, many of the primary and secondary outcomes of a reward system are then cycled back into the reward system to influence the process all over again. An example of this phenomenon is a female chemist who is extremely productive in her research and grant writing and receives tenure and an award from her disciplinary association. Her subsequent performance is excellent and this creates the opportunity for her to be recruited to an institutional type that is more research oriented. She will now have a different environment and sets of expectations for performance and

assessment, which will in turn influence additional outcomes. In each section that follows the element is identified first, followed by discussion of research on how it interacts with other elements in a reward system.

Inputs

Individual characteristics: Individuals bring many things to academic reward systems that interact in complex ways to influence how they fare. Gender, race and ethnicity, sexual orientation, and age are just a few of the demographic characteristics that have been studied with regard to reward systems. At the individual level, academic reward systems are experienced differently by faculty. In addition to these characteristics, the social and human capital individuals bring to their environment will influence processes and outcomes identified in Fig. 5.1 (Aguirre, 2000; Baez, 2000; Tierney & Bensimon, 1996). In addition, the epistemology, personal goals, and commitments that individual faculty bring to their work has been found to influence the work activities they prioritize and as such, their success in the academic reward system (Baez, 2000; O'Meara et al., 2008). They bring not only human capital in the way of credentials but also individual sets of expectations and hopes for their career success. Individuals make decisions (within a set of guidelines set by institutions) for which activities they will prioritize and find they have talents that better suit some activities more than others. Faculty will often reshape their reward system in some ways and be socialized toward its existing priorities in other ways. As will be discussed in the outcomes section, there is evidence that some individual characteristics, such as gender, are associated with fewer rewards, irrespective of the human capital women faculty bring to their reward system because of implicit bias (Lee, in press; Clark & Corcoran, 1986).

Appointment types and associated reward structures: Perhaps one of the most researched and discussed elements of reward systems in higher education today are *appointment types and promotion and tenure systems*. While scholars have illustrated how graduate training, postdoctoral positions, and even undergraduate training prepare and socialize future faculty before they formally enter academic reward systems (Austin & McDaniels, 2006; Weidman, Twale, & Stein, 2001), the appointment process is the official entry point to most academic reward systems. Most appointment processes begin with the development and approval of a job description and selection of a search committee. Being on a search committee and providing feedback to a search process is an important way that academics get to value or regard a certain set of academic priorities over others. For example, members of a search committee can prioritize teaching in the job description which influences the kinds of candidates who apply. External factors like the labor market and economy influence the kinds of appointments offered, the negotiation process, and the final award of pay and resources for work. Appointment type is a defining characteristic of an academic reward system because it defines the work responsibilities, opportunities for growth and criteria for promotion, governance roles, salary ranges, and promotion benefits to which an individual has access (Bland

et al., 2006; Gappa, 2000; Gappa et al., 2007; Schuster & Finkelstein, 2006; Trower, 2002).

With notable deviation across institutions, most promotion and tenure systems work in the following way. Faculty are recruited onto a tenure track, usually into an assistant professor position. They have six or more years “on the tenure track” and then submit their materials for promotion to associate professor. In most institutions, promotion to associate professor comes with tenure, though in some they are separate processes. The tenure decision in the former case is usually an “up or out” decision with successful faculty being tenured and promoted and unsuccessful faculty being given one extra year before their appointments are terminated. If faculty are successful they then wait another 5–8 years and submit materials to be promoted to full professor, although the timing between associate and full professor is highly variable. Also, this last decision is not “up or out” because the person is already tenured. Faculty can usually apply more than once for full professor. Most faculty submit an overall personal statement discussing their professional work, a curriculum vitae, annual faculty reports, teaching evaluations and philosophies, research publications, and documentation of grants, awards, fellowships, and committee assignments as part of their portfolio.

As mentioned previously, a modest share of new faculty appointments are tenure track (Gappa et al., 2007; Schuster & Finkelstein, 2006). Rather, over the last two decades more campuses are offering either 1-year renewable contracts or a ladder system of 1, 3, 5, and 10 years contracts that mirror the assistant, associate, and full professor ladder. Faculty can apply after a specified period of time for a longer contract based on criteria demonstrating excellence in their teaching, research, and service or in some cases one or two of the three. The trend in these new appointments is to “unbundle” faculty work and with the exception of extension faculty, most often focus purely on teaching or purely on research (Schuster & Finkelstein, 2006).

While tenure track appointments remain the preferred appointment type over non-tenure track appointments to most highly sought after Ph.D.’s (Trower, 2002), the prestige of the institution where a faculty member is appointed also factors into the desirability of the position. The appointment to a full-time faculty position itself is a reward for performance in graduate school and postdoctoral positions. After the status of the appointment as tenure track or not, the most desirable reward is to be appointed at an institution with significant prestige in the academic hierarchy and resources to support the faculty member’s work (Trower, 2002; Youn, 1989).

Institutional type: Institutional type, mission, resources, norms, and prestige act as a powerful scaffolding for how any given institutional academic reward system works (Clark, 1987; Gappa et al., 2007; Schuster & Finkelstein, 2006; Ward & Wolf-Wendel, 2007). These factors act as frames that define the workload expectations of faculty in terms of balance of teaching, research, and service. They influence the available resources for professional development to meet workload and productivity expectations, and they set the bar for contract renewal and promotion and tenure decisions. Institutional norms are communicated among faculty, often in the form of mentoring and advice (Huber, 2002). Senior faculty in a department will often be instrumental in advising junior faculty not to become involved in this activity or that

based on institutional norms and expectations of unit reward systems. The prestige of the institution (as defined by factors such as student selectivity, ranking systems, age, and endowment) will influence the availability of resources to support faculty inside the reward system and will determine what is expected of faculty in terms of performance for promotion and tenure, annual contract renewal, and merit pay.

Many scholars have explored how expectations for faculty performance in teaching and research differ by institutional type (e.g., Finnegan & Gamson, 1996; Hermanowicz, 2009; Ward & Wolf-Wendel, 2007). A classic, often cited work is Clark's (1987) description of the different worlds and cultures for faculty across institutional types with regard to time spent teaching and value given to research and engagement both on- and off-campus. Two more examples are illustrative of the importance of institutional type on the work activities and assessment of teaching, research, and service in reward systems. Ward and Wolf-Wendel (2007) explored how expectations for promotion and tenure differed by institutional type and the influence of those differences on balance of work and family for women faculty. Faculty at the 2-year and baccalaureate institutions with a teaching mission and those at the research universities felt the clearest about their institution's expectations for their use of time (e.g., teaching in the former case, research in the later), whereas institutions in comprehensive institutions often felt compelled to excel in teaching, research, and service and conflicted in what their institution most wanted from them. Vogelgesang, Denson, and Jayakumar (2010) analyzed data from the 2004 to 2005 Higher Education Research Institute (HERI) Faculty Survey and found that faculty from 2-year institutions, public 4-year colleges, and Catholic 4-year colleges perceived the greatest institutional commitment to community engagement. Recognition within the reward system and institutional support have been found important to faculty in their decisions about work activities (O'Meara, 2002). Therefore, institutional type and sense of institutional priorities clearly matters for faculty involved in community engagement as it will influence how their work is supported and received within a reward system and on some campuses it will be received more favorably than others. Policies and practices unique to an institution have also been found to be important motivators or disincentives within academic reward systems. For example, several studies have been done that show that colleges and universities that put parental leave programs in place for faculty during the pre-tenure years increase faculty satisfaction and overall success of women faculty (O'Meara & Campbell, 2008). As such institutional type remains a key structure and culture influencing the processes and outcomes of reward systems.

Discipline and department: Discipline or field and academic department are critical influences on academic reward systems (Clark, 1987; Gappa et al., 2007; Schuster & Finkelstein, 2006; Ward & Wolf-Wendel, 2007). Clark (1983) observed that the "discipline rather than the institution tends to be the dominant force in the working lives of academics" (p. 30). This point differs significantly by institutional type, however, and, the more research oriented the institution, the more pronounced disciplinary differences become in organizing academic life. Specifically, disciplinary socialization, norms, epistemology, and structure influence many aspects of

faculty work and therefore faculty academic reward systems (Baird, 1991; Becher, 1989; Braxton & Hargens, 1996). For example, disciplines that are high consensus, where there is widespread agreement regarding the important research questions and the major theories and methods (Braxton & Hargens, 1996), tend to also have higher publication rates than disciplines where there is less consensus. In disciplines and fields where there is less equipment and fewer journals and resources to conduct research faculty publication productivity may be less. There are also epistemological differences or ways of viewing knowledge construction that vary between disciplines and influence expectations for research, teaching, and community engagement (Colbeck & Michael, 2006). Departments are the primary location of identification for faculty, the place where organizational socialization occurs and resources are distributed. This is the place for most faculty where the most important decisions within reward systems are made—recruitment decisions, renewal of faculty to contracts and to tenure decision year, promotion to full professor, merit pay, and post-tenure review. They are the locations where compensation is negotiated, workload assigned, and advancement decided. These decisions are usually made by colleagues from the same or related discipline and the department chair. Departments and disciplines are also a place where relationships form and can become a source of recognition and intrinsic satisfaction. As such they have been an important focus for scholars who study reward systems.

External influences: Academic reward systems influence and are influenced by many forces external to their campus borders. Four examples of how the environment operates to influence academic reward systems are illustrative here. The first example is the academic labor market. Research has examined the profound role finances and labor market conditions play in faculty recruitment, hiring, and reward systems (Finnegan, 1996; Youn & Price, 2009). During times of economic expansion when the demand level increases, and supply is lower, there are subsequent changes in the types of appointments and standards for entry (Youn, 1989). Institutions must hire new faculty for mission, with more attractive packages and somewhat lower expectations for performance than in times where there are fewer positions available. In times of less demand, fewer resources, and an oversupply of applicants, institutions will often hire for research ability, even in teaching-oriented institutions because they can get both a candidate pool with teaching and research acumen. Star researchers hired in this last category are likely to then push their new institutions, whether liberal arts colleges or comprehensive universities, to become more centered on research. Such new hires wish their institution to acquire prestige and rankings more similar to the doctoral or research university where they were trained (Finnegan & Gamson, 1996). Such hiring practices, tied to the labor market, often result in an increase in the expectations for research for promotion and tenure, a greater demand by faculty for course release for research, higher faculty salaries, and more autonomy (O'Meara, 2007; O'Meara & Bloomgarden, 2011; Ward & Wolf-Wendel, 2007).

At the same time, when there is less demand many institutions accelerate the shift toward more flexible hiring and appointments. Specifically, the rise in non-tenure track appointments has been linked to declining state and federal funding for higher

education (Baldwin & Chronister, 2002; Bland et al., 2006; Schuster & Finkelstein, 2006). Non-tenure track appointments are generally perceived to be less expensive and more flexible at a time when the costs of higher education have increased and the revenues have decreased (Bland et al., 2006). Faculty in nontraditional appointments are typically paid less than tenure track faculty (Anderson, 2002; Baldwin & Chronister, 2002). Financial factors such as the recession of 2008–2009 have only increased the likelihood that institutions will replace tenure track lines with non-tenure track appointments (Lounder et al., 2010), very much shaping the point of entry and conditions of reward systems for individuals on their campuses. When there are fewer tenure track positions available, individuals have fewer options in terms of getting outside offers to negotiate for higher salaries and there is less opportunity for mobility (Schuster & Finkelstein, 2006). Daly and Dee (2006) found that having alternative job opportunities had a direct negative influence on intent to stay at an institution. In other words, environmental market conditions can limit or advance an individual's bargaining power inside his/her institution.

A second example of the influence of the higher education environment on academic reward systems is academic capitalism. Academic capitalism refers to the ways in which universities and faculty are increasingly influenced by market forces in their decision making over research, teaching, and extension activities (Slaughter & Leslie, 1997). In times of declining revenue, faculty are rewarded for activities that bring in additional revenue in ways that are perceived to fit into mission (Rhoades, 1998; Slaughter & Leslie, 1997; Slaughter & Rhoades, 2004). For example, many non-selective 4-year colleges and community colleges increase distance-learning opportunities, continuing education, and sometimes honors programs in order to acquire additional tuition and fees. Faculty reward systems via merit pay or criteria for contract renewal or tenure, whether spoken or unspoken, begin to reflect those goals. Likewise, Slaughter and Rhoades (2004) and Slaughter and Leslie (1997) explored how doctoral and research universities have pushed faculty to become more entrepreneurial over the last 20 years with incentives and penalties in reward systems for grant seeking and partnerships with industry. Resources shift toward faculty and departments that are perceived to be closest to the market and opportunities for external funding.

A third example of the influence of environmental forces on academic reward systems is ranking systems. Ever since *U.S. News and World Report* (USNWR) magazine and related magazines such as *Money Magazine*, *Princeton Review*, *Kiplinger*, and *Forbes* began ranking colleges and universities in the 1980s, there has been a movement in US higher education institutions to strive for better rankings to enhance prestige (Bastedo & Bowman, 2009; Ehrenberg, 2003; Meredith, 2004; Morphew & Baker, 2004; O'Meara, 2007; O'Meara & Bloomgarden, 2011; Winston, 2000). Classification systems like those of Carnegie and membership organizations such as the Association of American Universities (AAU) have also contributed toward institutional striving toward greater prestige and placement within the academic hierarchy. This striving occurs across 4-year institutions, though is segmented by different institutional types. In addition, over 40 different nations have some kind of rankings that are regularly published (IHEP, 2009). The

creation of both domestic and world-wide ranking systems such as *Times Higher Education*, *Shanghai Jiao Tong's* academic ranking of World Universities, and citation-based ranking systems like *Webometrics* has created incentives for many institutions in the United States and universities abroad to reward faculty activities that will improve department, college, and university placement in these rankings (Hazelkorn, 2009; IHEP, 2009; Margison, 2006). Major components of these ranking systems are publication productivity, external grant revenue, perceived quality of graduate programs, and perceived quality of the faculty. As such, “administrators and faculty in all types of institutions therefore use similar research-oriented criteria in hiring and in rewarding existing faculty” (Fairweather, 1997, p. 43). Striving for better rankings influences a number of important areas in higher education functioning such as resource allocation, admissions, academic planning, and curriculum. In an effort to move up in rankings, academic leaders seek to increase the number of international awards won by faculty, aggressively recruit faculty “stars,” and Nobel Laureates, and offset high salaries for these faculty stars by hiring more non-tenure track faculty. Most ranking systems have encouraged institutions to give greater resources to highly productive researchers as opposed to highly productive teachers or faculty involved in community engagement (Hazelkorn, 2009; IHEP, 2009; O’Meara, 2007; O’Meara & Bloomgarden, 2011).

A fourth example of environmental influences on academic reward systems is national movements initiated by the federal government, Washington-based associations, disciplinary associations, and “idea leaders” in higher education. Ernest Boyer’s (1990) national efforts from the Carnegie Foundation to redefine scholarship are a prime example of this phenomenon. Kezar (2000) conducted focus groups with practitioners and researchers and asked them to identify the most memorable piece of writing that they had read in the last 5, 10, or more years and almost every focus group member mentioned *Scholarship Reconsidered*. O’Meara and Rice (2005) surveyed 1,452 CAOs of nonprofit 4-year universities and among the 729 responses, 68% observed that they had made some change to their faculty evaluation policies, mission, or planning documents related to the encouragement and assessment of multiple forms of scholarship. While a later section considers the depth of true reform from these policy changes, the point still holds that a national conversation on faculty roles and rewards, instigated by idea leaders such as Ernest Boyer, Gene Rice, Ernest Lynton, and Donald Schon, had an impact “on the ground” in policies that govern reward systems.

There are many other examples of national conversations initiated by invisible colleges, disciplinary associations, and federal government organizations that have influenced campus reward systems. There have been efforts by the National Science Foundation (NSF) and the National Institute of Health (NIH) to encourage campuses to assess the impact of scholarship on communities by requiring plans for such impact and assessment in grant applications. National Science Foundation ADVANCE projects have persuaded research and doctoral universities to change aspects of their academic reward systems to be more accommodating to the lives and careers of women scientists. In recent years, disciplinary associations (e.g., the Modern Language Association (MLA), American Sociological Association

(ASA)) have issued reports and guidelines for evaluating new forms of scholarship (O'Meara, in press). Likewise, national organizations like the American Association of University Professors (AAUP) and faculty unions exert influence through bargaining on workload issues, compensation, and by censuring institutions that have disregarded due process. In sum, the external forces that impact academic reward structures have very concrete influences on processes and outcomes over time. In fact, when considering the diverse number of external influences on academic reward systems and their pervasive impact, it could be argued that never before in history has the regard for faculty been so influenced by actors outside campus borders.

Processes and Experiences

Assessment of teaching, research, service, and overall productivity: In this section, I review research and literature on the process of evaluating productivity and teaching, research and service whereas in the outcomes section, I consider which kinds of faculty activities are ultimately rewarded in promotion and tenure and pay. Productivity was defined by Blackburn and Lawrence (1995) as the “specific outcomes achieved by individuals, that is articles, teaching awards received, grants and fellowships obtained and the like” (pp. 28–29). In fact, productivity is a contested topic within institutions and in the field as it contains both behaviors and outcomes and is difficult to measure as not all faculty work results in measurable products. Regardless, many scholars have studied productivity in the major areas of faculty teaching, research, and service, creating their own measures of performance in each area. The assessment of teaching within reward systems has a long history that predates the standard use of teaching evaluations, peer evaluators, review of syllabi, and teaching portfolios commonly used today (Centra, 1993; Chism, 2006). Teaching evaluations are considered standard elements of faculty evaluation although the results are weighted differently by institutional type and mission. Research has revealed that teaching evaluations often are biased by such factors as gender of faculty and students, faculty personality, student college year, class size, expected grade, reason for taking a course, discipline, and leniency of grading (Centra, 1993). Such bias, when perceived by faculty can act as a motivator toward grade inflation to receive higher student evaluations. At the same time, the lack of uniform standards for teaching may allow faculty to innovate in ways that benefit student learning.

The assessment of research within reward systems is well known but a remarkably small number of scholars have focused on it. Here I differentiate between studies showing research is prioritized in reward systems (e.g., Fairweather, 2005) or that research productivity is influenced by such factors as gender and family status (e.g., Creamer, 1998; Perna, 2002), and instead refer to the actual assessment by department chairs and evaluation committees of the quantity or quality of research. The primary materials submitted in evaluation of research are peer-reviewed journal articles, books, book chapters, and research papers and reports. Because there are established prestige and selection barometers in disseminating

research (e.g., whether a journal or academic press is widely considered top-tier, its rejection rate, disciplinary research awards), there are operating assumptions that these measures equal quality (Creamer, 1998).

The assessment of internal or committee service is also an element of academic reward systems, and depending on institutional and disciplinary norms and career stage, there are expectations that faculty serve on a certain set of committees in order to be granted favor in the reward system (Porter, 2007). Scholars have studied the role faculty demographics play in the number of committees individuals serve on or the pressure they feel to engage in institutional service (Aguirre, 2000; Porter, 2007; Tierney & Bensimon, 1996). A subsequent section considers a new and important area of faculty evaluation and that is the extension of the definition of scholarship to include teaching scholarship, engaged scholarship, and integrative scholarship. Many campuses have set up specific criteria to assess high-quality scholarship in these areas for promotion and tenure and contract renewal (Saltmarsh, Giles, Ward, & Buglione, 2009).

Additional reviews of performance: The widespread use of annual reviews, merit pay, and post-tenure review are relatively recent additions to the reward systems landscape in the last 20 years. The accountability movement of the late 1980s and early 1990s is largely responsible for the addition of annual faculty workload reports which faculty submit to account for their contributions in each major area of faculty activity. If there are funds available, such reports are evaluated by department chairs and personnel committees for merit pay. Merit pay usually takes the form of small salary adjustments (from 1% or less to 5%) for high performance in comparison to department averages and criteria (Engvall, 2010). Post-tenure review will be discussed in a latter part of this chapter, but refers to periodic assessment of faculty performance post-tenure (every 5–7 years). Post-tenure review typically involves some assessment of teaching evaluations, and scholarship via a personal statement and vita. Professional development funds often accompany post-tenure reviews as do expectations for adjusting performance if it is deemed unsatisfactory (Licata & Morreale, 2002).

Socialization toward norms and experiences within reward systems: Many scholars have explored the experiences of tenure track faculty as they are socialized into the traditions and norms of their disciplines and fields, departments, colleges and universities, and academic profession more broadly (Braxton & Hargens, 1996; Clark & Corcoran, 1986; Cooper & Stevens, 2002; Lindholm, 2003; Tierney & Bensimon, 1996; Tierney & Rhoades, 1993; Turner, 2003). With regard to reward systems, a central focus has been how socialization experiences differ for women and minority faculty. Many studies have revealed that women faculty are more likely than male faculty to perceive gender discrimination, leave institutions prior to receiving tenure, take longer to receive tenure for family-related reasons, and to choose not to enter the tenure track at all (Morrison, Rudd, Nerad, & Picciano, 2007; Perna, 2001a, 2005a, 2005b). In fact, a synthesis of research on faculty work-life (O'Meara et al., 2008) showed that in comparison to their male counterparts, women faculty are more likely to have difficulty identifying mentors to guide them in their careers and are disproportionately drawn to student-centered pedagogies,

liberal arts goals, and toward academic mothering roles that pull them away from research (see also Terosky, Phifer, & Neumann, 2008). Women are more likely than male colleagues to experience social isolation, be less satisfied with their positions, and feel more pressure to conform to normative political views, personal behavior, and attire to succeed (see Finkelstein, Seal, & Schuster, 1998; Harlow, 2003; Park, 1996). In fact, a study of new scholars conducted by COACHE, the Collaborative on Academic Careers in Higher Education, revealed that out of 28 measures of workplace satisfaction, many of which were directly related to reward system, junior faculty women were significantly less satisfied than men on 19 measures (Trower & Bleak, 2004a, b).

Studies have also shown faculty of color are more likely to leave institutions before receiving tenure and be dissatisfied with their institution's tenure process (its fairness and their own prospects of achieving tenure). In comparison to their white colleagues, faculty of color are more likely to experience difficulty establishing mentoring relationships in graduate school and throughout their careers, to find support for their scholarly interests, and recognition for their research (O'Meara et al., 2008). Faculty of color have been found more likely to articulate commitments to the holistic development of students, to out of class experiences, to goals for social change and community engagement, and report using student centered pedagogies such as collaborative learning and diversity-related activities (Aguirre, 2000; Baez, 2000; Rosser, 2004; Schuster & Finkelstein, 2006; Umbach, 2006). However, many studies need to be repeated controlling for variables of institutional type, career stage, discipline, and other key intervening variables. Trower and Bleak (2004b) found that when career stage and institutional type were controlled, fewer differences emerged in the experiences of white faculty and faculty of color.

Outcomes

In this section primary and secondary outcomes of reward systems are presented. Primary outcomes are promotion and tenure or contract renewal, pay, and recognition within a field and department, as well as institution. Secondary outcomes are retention, organizational commitment and satisfaction, subsequent performance, opportunities for professional growth, and impact on institutional mission and goals. Both sets of outcomes are very much influenced by the inputs in the reward system, as well as the process and experiences of the faculty member in terms of their performance and productivity in teaching, research, service, and its assessment.

Promotion and tenure or contract renewal decisions: It is important context to consider tenure achievement and contract renewal for full-time faculty in 4-year colleges and universities. In 2002, Chait estimated the chances of achieving promotion and tenure for those who submit applications to be about 3 out of 4. This is an average with it being slightly less in research universities and slightly higher in small 4-year liberal arts colleges. In terms of contract renewal, it is harder to estimate. There is evidence to suggest that in institutions without tenure, non-tenure

track appointments with multiple year contracts offer at least as positive if not better job security as the 3 out of 4 tenure system provides (Chait, 2002; Mallon, 2002; Trower, 2002). Institutions with single year contracts, however, offer much less job security.

The key finding from many studies is that research matters the most in promotion and tenure decisions at 4-year institutions, though expectations for the amount and quality of research differ greatly by institutional type. For example, Braxton, Luckey, and Helland (2002) found that despite evidence that broader definitions of scholarship have begun to permeate reward systems, research remains the coin of the realm for promotion and tenure across most 4-year institutions. This finding holds sway despite teaching being the major faculty activity, even in baccalaureate institutions where course loads are four and five courses per semester. Clearly, teaching is also being rewarded, in that this is what the majority of faculty, who are keeping their jobs, are spending their time doing. However, such findings underscore the reality that even in teaching-focused institutions, when teaching portfolios and research activities are placed side by side, research is disproportionately rewarded. Much evidence shows that there are gender disparities in promotion and tenure outcomes in 4-year institutions, even after controlling for differences in human capital, and holding discipline, institutional type, and rank constant (Park, in press; Perna, 2001a; Smart, 1991; Toutkoushian & Conley, 2005). Some of the reasons why such disparities exist in promotion and tenure and in pay are considered at the end of the Section “Theories and Methods Used to Study Reward Systems.”

Pay: Pay is quite simply monies given to an individual in exchange for work provided. Pay (or faculty salary) is usually the major part of a compensation package. Compensation often, but not always, includes benefits such as health care, retirement, funding for summer research, and professional development. Fairweather (2005) observes that pay can be thought of as influenced by two major forces: (a) market competition or (b) institutional forces. Pay is influenced by market competition in that faculty salaries are at least in part dependent on supply and demand (Bowen & Sosa, 1989). If there are more Ph.D. graduates from English than computer science but an equal need for both in a given year, those with the computer science degree will likely receive a higher starting salary as a recruitment tool. Likewise, the degree to which the faculty member has other options that are more profitable is taken into account. As such business, law, and engineering faculty are often compensated better than humanities faculty for which there may be other options, but perhaps not uniformly better compensated ones. The market view also explains why faculty who have stored up more human capital in the areas an institution is hiring for—such as research productivity—will be compensated higher than those who have not. Fairweather (2005) and Hearn (1999) observe that institutional policies also impact pay, in that an institution might decide to value some activities over others.

In terms of whether teaching, research, or service are most rewarded in pay, Fairweather’s work has been pivotal (1993, 1996, 2005). Fairweather (2005) observed that prior to his research in this area, while there had been “claims that

we already know that research is highly valued and that teaching is not, the data used to support these claims are often attitudinal and/or based on only one or two institutions" (p. 362). Using data from the 1987–1988 National Survey of Postsecondary faculty (NSOPF), sponsored by the National Center for Education Statistics, Fairweather found that for tenure-track, full-time faculty, the more the time spent on teaching and instruction, the lower the basic salary, whereas faculty who spend the greatest time on research and scholarship receive the highest compensation. While Fairweather found some differences by institutional type and what is emphasized at different career stages, the finding was strong and clear that, "regardless of institutional type or mission, faculty who spend more time on research and who publish the most are paid more than their teaching-oriented colleagues" (p. 374). The findings from this research also suggested that assistant professors "in all types of institutions are socialized early to follow a research and scholarship model" (p. 374). Fairweather was able to break this concept down into concrete actions faculty take that influence compensation. For example, he found that in 1998–1999 "for the vast majority of faculty irrespective of institutional type, teaching an additional hour remained a negative factor in pay and publishing an extra article a positive factor in pay" (p. 412).

In addition to the question of what kinds of faculty work are most rewarded in pay, many scholars have studied the fairness of faculty pay and whether it discriminates based on gender and race and ethnicity. Contingent on institutional type, women faculty in 4-year institutions tend to make lower salaries than their male counterparts and this has not changed significantly over the last few decades. Schuster and Finkelstein's (2006) analysis of surveys and data spanning multiple decades found that in the early 1970s women faculty salaries were at 82.7% of male faculty salaries, and in 1990 they were at 79.6%. *The NEA Advocate* which publishes an analysis of annual trends in salaries shows that in all but one sector (private associate degree institutions) women earn less than men, and the discrepancy is the worst at doctoral and research universities where it is about 80% (*NEA Advocate*, 2007).

Fairweather (2005) found the most important demographic factors in predicting pay were seniority, gender (e.g., being male), and field of study. Such findings are consistent with previous studies. For example, Creamer (1998) conducted an analysis of publication productivity to provide greater understanding of the factors that might separate faculty in terms of their capacity to perform as highly prolific scholars. Her extensive analysis found that, "race and gender do not have a direct effect on publishing productivity, but an indirect effect through factors such as rank and academic field, institutional factors including work assignment, and by environmental factors such as access to funding and influential collegial networks" (p. 4). A second major conclusion by Creamer (1998) was that one of the four norms of science, universalism, wherein the criteria used for judging scientific merit are impersonal and universal, applied regardless of gender and race, are not being applied with regard to gender. As such, women seem to be at a disadvantage in terms of having equal access or chance of doing the scholarship that receives the greatest rewards in terms of pay and promotion.

As the next section on theoretical frameworks points out, there are many potential explanations for differences between white male faculty and women and minority in pay and promotion and tenure. Here I contrast just a few. One way to frame the problem is structural and to recognize there are fewer women and people of color represented in faculty positions throughout the pipeline toward the professoriate and in climbing the academic ladder. This leads to tokenism and isolation, with few role models for success (Kanter, 1977). Aggressive recruiting, affirmative action, and strengthening of the pipeline are typically presented as solutions from this perspective. From a cultural perspective, the problems are cultural schemas, gender and race stereotyping, and implicit bias within campus cultures that limit advancement (Callister, Hult, & Sullivan, 2006; Valian, 2000, 2005; Williams, Alon, & Bornstein, 2006), and the solutions focus on removing bias from recruitment processes, leadership, and cultural change (O'Meara et al., 2008; Tierney & Bensimon, 1996; Turner, 2003). Relative disadvantage in human capital and concerns about its cumulative effects has been a focus of many studies (Clark & Corcoran, 1986, Park, 1996; Perna, 2001b; West & Curtis, 2006). Cumulative disadvantage in human capital is particularly relevant when considering that Creamer (1998) found that most longitudinal studies of cohorts of male and female scientists consistently show gender differences in productivity where women produce significantly less than male colleagues with the same doctoral origins. Gender affects publication productivity indirectly by virtue of women being less likely to have the characteristics most positively correlated with high productivity: interest in research, teaching graduate over undergraduate courses, and starting in prestigious doctoral programs (Creamer, 1998). This explanation suggests programs attempt to change the structural and organizational conditions that seem to influence the development of human capital, such as access to networks and senior mentors, resources for research, and attraction of women and minorities into the disciplines and institutional types most likely to support research activities. Also, a recent review of the literature on how women and minority faculty fare in reward systems revealed that some of the differential in rewards is generational, with new appointments correcting past bias toward men and white faculty (Lee, in press). Also, Lee (in press) observed that many faculty rewards are distributed based on an “accumulated mixture” (p. 20) of both universalism and particularism, attributable to both genuine merit and opportunities that are less accessible and biased in their selection process.

Additional recognition within a field and institution: A smaller number of studies have examined the role of recognition for one's work via institutional and disciplinary association awards. Chism (2006, p. 589) observes that “teaching awards have become a standard feature of the reward system at most colleges and universities.” While most institutions also have research and service awards (Menges, 1996), teaching awards have been among the most studied. Chism (2006) observes that they have become prevalent for three reasons: for institutions to symbolically acknowledge support for teaching, to recognize the accomplishments of excellent teachers, and to encourage other faculty toward similar levels of performance (p. 589). Menges (1996) observed that they may be seen as “an inexpensive way to satisfy an institution's commitment to honor teaching” (p. 6). Appointment to editorial boards,

disciplinary association awards, and award of federal and foundation research funding are also important elements of a reward system. They not only operate more as regard within a discipline but also impact how an institution regards the faculty member (Braxton, 1986; Hermanowicz, 2009; Leahy, 2007).

Retention, organizational commitment, and satisfaction: In recent years scholars have begun to study whether a faculty member stays in their current appointment, indicates a desire to leave, or actually leaves, and the relationship of these to their reward system (Daly & Dee, 2006; Rosser, 2004). Counter-offers also play an important role in academic reward systems as they are one of the only ways to enhance salary without leaving, outside of merit pay and external grant funding (Barbezat, 2004). Researchers have observed several kinds of stressors that contribute to faculty propensity to leave an institution. Many of the factors found important to retention, organizational commitment, and satisfaction are embedded in faculty experience of their reward system—such as dissatisfaction with pay, equity in rewards like merit pay, workload, and course release (Daly & Dee, 2006; Johnsrud & Rosser, 2002; Smart, 1990). For example, Daly and Dee found that a sense of “distributive justice” or that there is fairness in the amount of compensation or other resources employees receive was important in faculty decisions to stay in urban metropolitan universities. If faculty saw the outcomes of personnel decisions as unfair they were less likely to note an intent to stay (Daly & Dee, 2006).

Overall, full-time faculty report being very satisfied with their careers and work-lives (Hagedorn, 2000; Rosser, 2005a). Gappa et al. (2007) observe that 87.5% of faculty show a high degree of satisfaction with their jobs overall and this satisfaction has remained relatively stable for decades, regardless of appointment type, institutional type, gender, and ethnic background. Yet, these authors also chronicle a steady increase over the last few decades in the number of faculty who note that they are very dissatisfied with their work-lives. Among those reward system elements where faculty report being least satisfied are salaries and rising expectations for promotion and tenure (Gappa et al., 2007; Rice, Sorcinelli, & Austin, 2000; Schuster & Finkelstein, 2006). Lindholm, Szelenyi, Hurtado, and Korn (2005) found that 44% of faculty in one survey listed tenure and promotion review as a key area of stress. These findings are consistent across other major studies of tenure track faculty. Barbezat (2002) extensive analysis found that when comparing non-tenure track faculty to tenure track faculty, the former are less satisfied with their organizational status, perquisites, and prospects and more satisfied with their workload and control over their time. Schuster and Finkelstein (2006) observe that it seems non-tenure track faculty “appear to be trading off security and advancement potential for a more manageable workload and time to pursue their own interests” (p. 231). In sum, reward system inputs and processes very much influence outcomes for individual faculty with regard to retention, organizational commitment, and satisfaction.

Subsequent performance: Performance appears twice in Fig. 5.1. First, performance appears in the category of processes wherein faculty prioritize certain work activities and perform them, which is assessed. In the second case, subsequent

performance appears in outcomes as it refers to performance that is motivated by having been rewarded previously for an activity or set of behaviors. In this second case, performance acts as an outcome of the reward system as the rewards granted motivate or incentivize additional behaviors. For example, a faculty member who is non-tenure track may have their teaching assessed and have their contract renewed during that process (a reward). However, the department chair might observe to the faculty member in the course of the evaluation that future contract renewals will be based on good teaching evaluations and one to two published articles. As such his subsequent behavior and performance of pursuing the articles is an outcome of the evaluation process.

Increasingly researchers are trying to make stronger connections between elements of academic reward systems and specific outcomes, controlling for key intervening variables. A particular interest of researchers as the workforce has turned to more contingent labor has been the relationship between appointment type and specific kinds of work performance, productivity, and work products. For example, Finkelstein and Schuster (2001) found that compared to tenured or tenure track faculty, faculty on non-tenure track appointments published fewer articles, worked 5 fewer hours per week, up to 10 hours fewer at research universities, spent less time out of class with students and were less committed to their institutions. An interesting question relates to why this difference might exist and whether it differs by institutional type.

Bland et al. (2006) attempted to answer this question at least among research and doctoral universities and hypothesized that the tenure system (a) acts as a major mechanism for assuring the presence of environmental features essential for productivity, (b) results in increased faculty commitments that facilitate productivity, (c) promotes productivity by increasing motivation and providing a process for the institution to promote and retain only the high performers, (d) requires faculty to commit significant effort to and be productive in at least three areas: teaching, research, and service. Bland et al. (2006) found that in research and doctoral institutions, full-time tenure track faculty were significantly more productive in research, significantly more productive in education, and significantly more committed to staying in academics and their current position. They also worked more hours per week than their non-tenure track colleagues. The authors were able to hold experience constant and showed that even given comparable experience at the beginning of appointment, the differences existed.

Bland et al. (2006) observed that their study did not prove that a tenure system was causing the observed differences in productivity and commitment given other factors at play such as individual choice in non-tenure track and tenure track appointments. The choice for a non-tenure track appointment might be made for lifestyle reasons and in fact Trower's (2002) research on faculty recruitment suggests that is often the case. Yet, Bland et al.'s (2006) research observes that it is likely both the individual and the environment at work in the situation: "a non-tenure track system is likely to be less attractive to highly motivated faculty and even if a faculty member is highly motivated, a non-tenure system may well be less conducive to commitment and productivity" (p. 116).

Additional research has examined the relationship between faculty appointment type and the use of high impact teaching and learning strategies (Benjamin, 2002; Umbach, 2007b) and between type of appointment and student retention in gate-keeper courses (Jaeger et al., 2007). The starker differences are found between full-time and part-time appointments, although important differences in faculty performance in these areas have also been found between non-tenure track and tenure track faculty. However, most often there are important differences between the professional qualifications and resources offered to these two groups that make it unclear if it is the reward structure or these other factors impacting the differences in performance. In sum, while reward systems distribute regard based on performance, they also shape future faculty performance and productivity.

Opportunities for professional growth and intrinsic rewards: Intrinsic and intangible rewards must also be considered key outcomes of academic reward systems. For example, each year faculty report in significant numbers that they remain satisfied with the autonomy that they experience in their work, the meaningfulness of their work, relationships with students, and the ability to contribute to social change (Gappa et al., 2007; O'Meara et al., 2008; Schuster & Finkelstein, 2006). This is a trend despite faculty dissatisfaction with other elements of their reward system such as pay, recognition from senior colleagues, or the politics of promotion and tenure (Trower, 2009). In particular, autonomy has been widely considered a major source of satisfaction (Hagedorn, 2000) among faculty and though intangible needs to be considered a key reward that motivates faculty behavior.

Another example of intrinsic or intangible rewards or penalties in reward systems is psychological contracts (Huston, Norman, & Ambrose, 2007). Psychological contracts are in part about expectancy. If a faculty member is promised a certain level of resources, workload assignment, and rewards at the time of hire, they develop a psychological contract with their organization that these promises will be kept. If they are then let down by the organization, via academic leaders or colleagues, and they believe that the institution and leaders had the resources to fulfill the promises they made and simply decided not to, the psychological contract has been broken and this will have a negative impact on intent to stay, satisfaction, and productivity (Huston et al., 2007). Reinforcing the idea of a reward system, as a system of structures, cultures, and actions, Rousseau (2008) observes that “the heart of effective contracts is not so much the consistency, but redundancy, lots of supporting practices that provide resources and direction that sustain exchanges and companies over time” (p. 235). In sum, the intangible and intrinsic outcomes of reward system experiences are sewn into many different elements of reward systems and must be considered a critical part of the system.

Impact on institutional mission and goals: A smaller body of research has considered the outcomes of reward systems for society, institutional mission, and goals. One way to view the issue is whether the reward system makes the institution more effective at meeting goals (e.g., Mallon, 2002) or whether changes in reward systems achieve desired outcomes (O'Meara, 2003, 2005a, 2006). Another view is how faculty themselves change reward systems as they move through them. Organizations and thereby their reward system outcomes are changed as significant cadres of

faculty with different perspectives, orientations, and interests move through them (Tierney & Rhoades, 1993). A growing area of research focuses on exemplars in different areas of faculty work and the individual and organizational factors that allow them to be successful when the structures and cultures of reward systems are hostile or unsupportive. Such work has examined faculty development of women's studies programs (Gumpert, 1990), faculty making the case for the scholarship of teaching for tenure (Huber, 2001), faculty resisting bias against family care-giving (Colbeck & Drago, 2005), and faculty taking teaching seriously in research cultures (Terosky, 2005). Many faculty figure out other contributions that they can make to their institutional system—other currencies that they could offer—in lieu of the fact that they would prioritize the less accepted work or lifestyle choices they were making (O'Meara, 2011). At the same time, we know many early career faculty have left or are considering leaving their institutions because they feel that the reward system is rigid and unbending to faculty who hold values that differ from the norm (Trower, 2008). Regardless, each time a faculty member follows well-accepted norms in a reward system, and each time they do the opposite, they make a choice that interacts and influences the system—either to reinforce or to challenge those norms and expectations. Thinking of reward systems in this way actually offers faculty the opportunity to position themselves as agents of change within reward systems as opposed to victims of a system of which they are not a part.

While academic reward systems have significant outcomes for faculty and all of the major stakeholders of higher education, rarely has research or theoretical perspectives, outside the lens of efficiency and cost-savings, been the driving factor behind reform. Yet, research and theory have much to offer the study and reform of reward systems and thus will be addressed in the next section.

Theories and Methods Used to Study Reward Systems

Many theoretical frameworks have been used to study academic reward systems and how they work. Most often the theories are applied to understand a particular element of the academic reward system (e.g., pay or achievement of tenure and promotion) rather than considering it as a system. While it is not possible to cover all of the theories that have been used to study academic reward systems, in this section I bundle together four kinds of theories that have been used repeatedly and consider the strengths and limitations of each in helping us understand how academic reward systems work: theories of organizational culture, economic or market approaches, motivational and psycho-social theories, and systems theory.

Organizational Culture and Socialization

The organizational culture perspective considers how values, beliefs, assumptions, and norms are developed, maintained, and passed on in organizations. Socialization is considered the key mechanism through which individuals become part of a

community via rituals, language, symbolic actions, and reward systems. Major theorists in this area are Merton (1957), Geertz (1973), and Schein (1985) whose work has been utilized by many higher education scholars to understand how academic culture works overall (Bensimon & Neumann, 1993; Bergquist, 1992; Birnbaum, 1988, 1992; Kezar, 2001; Kuh & Whitt, 1988) and how academic reward systems work specifically (Aguirre, 2000; Austin, 1994; Clark, 1987; O'Meara, 2002; Tierney & Bensimon, 1996; Tierney & Rhoades, 1993).

Several examples illustrate the application of theories of organizational culture to academic reward systems. Clark (1987) explained the “small worlds, different worlds” of faculty and how work-life and academic reward systems differ by institutional type. Becher (1989) and Biglan (1973) considered differences in disciplinary epistemology and work goals and how they influence interactions between colleagues, and expectations for advancement in academic reward systems. Building on the work by Van Maanen and Schein (1979), Tierney and Bensimon (1996) examined faculty socialization on the tenure track as a cultural process through six dimensions: collective and individual, formal and informal, random and sequential, fixed and variable, serial and disjunctive, and investiture versus divestiture. O’Meara (2002) used Schein’s (1985) framework for organizational culture to understand the assessment of engaged scholarship in four different institutional types that had recently changed their promotion and tenure guidelines. O’Meara (2004) also used the cultural frame to reveal values and beliefs that influenced the implementation of post-tenure review across a state system.

Cultural approaches to understanding how academic cultures work have made several unique contributions that illuminate the faculty experience in reward systems. Because of cultural approaches, we better understand what goes wrong in the socialization process of women and minorities to the professoriate, such as weak mentoring, additional demands and expectations (Whitt, 1991), and fewer networking opportunities (Tierney & Rhoads, 1993). Furthermore, drawing on the work of organizational culture, critical theory, postmodern perspectives, and standpoint theories (those emphasizing feminist and black feminist thought; Giroux, 1993; Hill Collins, 1990; Ladson-Billings, 1997; Tierney & Bensimon, 1996) scholars have revealed the positions of individuals vis-a-vis each other in structures of power (e.g., Bensimon, 1992; Talburt, 2000). Such theorists have helped frame the specific aspects of language, ritual, policy, and practice that exclude certain groups and give legitimacy to others. One major example of these approaches is the work of feminist scholars that have used such perspectives to frame the “glass ceilings” and barriers women experience while navigating academic reward systems (Glazer-Raymo, 2008; Gumpert, 1990; Romero & Stewart, 1999). In this genre, Bensimon and Marshall (1997) applied feminist perspectives to study work and family policies inside academic reward systems.

One specific cultural theory that has revealed much about reward systems in science is universalism and particularism and the normative structure of science. Based on ideas developed by Robert Merton (1942, 1957, 1968), the theory of the normative structure of science assumes that academics are part of a profession wherein

the community exercises social control to ensure faculty adhere to a set of core norms (Braxton, 1986). The theory is primarily relevant for scientists in research universities in the natural and physical sciences or social sciences. According to this theory, faculty have gained expertise and have committed themselves to serve clients (i.e., students, colleagues, general knowledge in the field) and to the advancement of knowledge. For this service, they are granted autonomy. Formal and informal norms shape codes of conduct and are internalized by faculty (Braxton, 1986). The norms are universalism, communism, disinterestedness, and organized skepticism. Universalism is an assumption that truth claims will be made on the basis of pre-established impersonal criteria or merit rather than particularistic criteria such as race, nationality, class, and personal characteristics. Communism is the value that findings of research should be public and without secrecy. Disinterestedness assumes the needs of science should trump individual motives. Organized skepticism refers to the benefits of systematic questioning of evidence in science. Braxton (1986) concluded through an extensive review of the literature that “both universalism and particularism play a role in the process of allocation of recognition in science” (p. 345).

Particularism intersects with the concept of cumulative advantage that some individuals accrue greater advantages over time that increase the likelihood of success, through the idea of the Matthew effect wherein the scientific reputation of the author influences reception of the scientific findings (Braxton, 1986). Merton (1968) observed that “a scientific contribution will have greater visibility in the community of scientists when it is introduced by a scientist of high rank than when it is introduced by one who has not yet made this mark” (p. 59). As such, those with already established scholarly reputations accrue more accolades than those just establishing themselves. Braxton’s (1986) review of the literature and analysis of how this works in academic reward processes further points out that the Matthew effect plays a role across many elements of academic reward systems including first appointments, election to associational offices, postdoctoral fellowships, advisory panel memberships, and membership in honorary societies. Creamer (1994, 1995, 1998) used the concepts of universalism and particularism in explorations of why so few women are among the most prolific scholars.

The cultural perspective, especially when paired as it often is with qualitative interviews, portraits, and case studies, is a particularly effective lens to study academic reward systems because higher education is strongly value-laden (Birnbaum, 1988; Clark, 1987, Kezar, 2001). Values of higher education institutions may include academic freedom, autonomy, specialization, or modes of shared governance. Values influence how any individual will fare in an academic reward system, how they fit within the culture, and how they are more generally regarded. However, the cultural perspective can be criticized for over-emphasizing a particular group’s cultural artifacts, values, and beliefs at a particular point in time and not considering change over time in the culture or the malleability of the culture itself (O’Meara et al., 2008). Also, by focusing on a specific group, the role of human and psychological needs and motivations outside of cultural norms may be under-emphasized.

Economic Theories and the Market Approach

Economic theories focus on issues of supply and demand in the higher education market. This perspective considers how environmental forces (e.g., a recession), periods of expansion in higher education, and competition between institutions influence the academic labor market and elements of academic reward systems. Coupled with theories of human capital and social, organizational, and political views, scholars have often used economic theories to understand trends in pay (Eckes & Toutkoushian, 2006; Youn, 1989), recruitment of faculty stars (Clotfelter, 1996), and how shifts in institutional resources impact academic capitalism within reward systems (Slaughter & Leslie, 1997). Market approaches help contextualize how faculty might make decisions to “move up” in the academic hierarchy and the kinds of benefits and incentives they might consider to relinquish tenure (Clotfelter, 2002).

The theory of human capital posits that the experiences, knowledge, and skills individuals bring to their workplaces influence their work experiences, including their success in academic reward systems. It has been used by many scholars to consider salary differentials (Nettles, Perna, Bradburn, & Zimbler, 2000; Perna, 2001b; West & Curtis, 2006). Perna (2001b) and Umbach (2007a) have both found that much—though not all—of differences in salary between genders can be attributed to the relative differences in the market by discipline, institutional type, rank, and experience. For example, if women faculty tend to be attracted to institutions and disciplines that pay less and tend to be among the lower ranks, their salaries are logically lower. Differences in publication productivity, level of classes taught, and other “currencies” they hold also explain differences. In addition, because women tend to have lower salaries at first appointment than male colleagues (Bellas, Ritchey, & Parmer, 2001), merit pay and across the board increases disproportionately advantage men.

A strength of the market and human capital perspectives is that they shine a light on financial and human resource decisions made by institutions and faculty in academic reward systems. They are not useful for explaining more emotional, personal, family-oriented, or intrinsic reasons individuals make decisions within academic reward systems. Market force perspectives also do not explain many societal trends or interactions. For example, Toutkoushian, Bellas, and Moore (2007) studied the impact of gender, race, and marital status on salaries and found that among faculty with similar qualifications, married women earned 7% less than their male married counterparts. Clearly there are interactions between pay and family factors better explained through sociological perspectives in such a case. Other examples include research university faculty taking teaching seriously and spending significant time on it when their reward system clearly does not value that decision (Terosky, 2005), or a faculty member taking a non-tenure track appointment because it is in an area where their partner can find work or is near family (Trower, 2002). Given recent research on the “irrationality” of human beings’ decision making and that individuals often respond emotionally rather than rationally to economic incentives (Frey, 1997; Pink, 2009), it is important to complement market-based approaches with psychological ones when studying reward systems.

Motivational Theories

Drawing on organizational psychology, human development, and socio-organizational perspectives, motivational theories consider the internal and external, intrinsic or extrinsic factors that come together to motivate individuals toward specific behaviors. Latham and Pindner (2005) define work motivation as “a set of energetic forces that originate both within as well as beyond an individual being to initiate work related behavior and to determine its form, direction, intensity and duration” (p. 2). Bess (2003) identified four theories or schools of motivation theory that are particularly applicable to faculty: need theories such as those by Maslow (1970) and Herzberg et al. (1959), motive theories (McClelland, 1971), job enrichment theories of Hackman and Oldman (1980), and equity theory (Adams, 1965). Most of these theories assume that individuals have innate needs, acquire other needs, and are motivated by institutions that help them meet needs and achieve personal and professional goals.

Cognitive motivational theories used most often in higher education research have been expectancy theory (Vroom, 1964), self-efficacy (Bandura, 1986), sense making (Weick, 1995), and job characteristics theory (Hackman & Oldham, 1980). Expectancy theory (Vroom, 1964) has been applied by Bess (1998) and Daly and Dee (2006) with the Price–Mueller model of turnover intent. The theory assumes that individuals have certain expectations for the structural aspects of their work, and that when these expectations are met, individuals are more likely to stay at their institution. Job characteristics theory posits that workers, including faculty, will thrive in their jobs and reward systems if they experience three critical psychological states: experienced meaningfulness of the work, experienced responsibility for work outcomes, and knowledge of results (Bess & Dee, 2008a). Higher levels of motivation in these three states are activated by five core characteristics of the job: skill variety, task identity, task significance, autonomy, and feedback from the job itself (Bess & Dee, 2008a). These theories are consistent with research on the satisfaction faculty taken from being given autonomy in their work-lives (Hagedorn, 2000). One of the best interdisciplinary examples of the application of motivational theory to faculty was completed by Blackburn and Lawrence (1995).

A strength of motivational theories is that they help us see all of the possible reasons that an individual faculty member might act as they do. A weakness may be that they over-emphasize the role of individual motivation in the complex ecosystem of academic reward systems. A faculty member may be very motivated by the feedback they receive from their colleagues and department chair, and thereby act in productive ways. Yet, that same faculty member may not receive contract renewal, tenure, or promotion for political or market reasons.

Systems Theory

Perhaps one of the most interesting theoretical frameworks with which to study academic reward systems is systems theory. As Bess and Dee (2008a) observe, “the central theme of systems theory is the notion that a change in any part of a system

has implications for all other parts of the system" (p. 471). Considered a "grand theory" that can be used to explain many biological, sociological, and psychological phenomena (Bess & Dee, 2008a), systems theory has been used extensively to understand the organizational behavior of colleges and universities (Birnbaum, 1988, 1992, 2000). A key concept in systems theory is that of tight or loose coupling between components in a system, that is, how strongly an event in one area affects events in another, and the impact of those relationships on the outputs of the system. For example, system theory assumes that if certain faculty in a department bring in external grant funding, this can have a greater or lesser impact on the remaining faculty going up for tenure or promotion, depending on the tendency to compare cases in the department.

Systems theory has been used to consider change in higher education and overall organizational behavior and has the potential to help us understand the influence of environmental characteristics on elements and outcomes of reward systems. In addition, the subfield of social systems theory focuses on how an individual and their personal characteristics interact with aspects of their social environment to influence behavior (Bess & Dee, 2008b). As such we have two theoretical tools, general systems theory and social systems theory, that can help scholars understand both macro- and micro-level change in any given academic reward system. For example, a general systems perspective might help us map the factors that influence distribution of scarce resources (e.g., merit pay, graduate assistants, and professional development funding) and see how departments and faculty considered closest to revenue generating activities might receive the greatest rewards. At the same time, social systems theory can help us look at how individual characteristics of generation Y faculty (such as a desire for flatter organizational structures, constant feedback, and transparency in decision making) may be interacting with traditional tenure systems in ways that produce frustration and tension. Using systems theory has practical advantages for faculty and academic administrators who want to map what is happening inside reward systems. Senge (1990) observes that when leaders master "systems thinking" or "the use of cognitive frameworks that emphasize seeing the interrelationships rather than things, for seeing patterns of change rather than static snapshots" (p. 68) they are better able to respond to change effectively. However, systems theory is not useful for predicting behavior or direct relationships between an individual and environment.

Critique of Methods Used to Examine Academic Reward Systems

We know much about how faculty experience academic reward systems from national survey data such as the Higher Education Research Institute (HERI) Faculty Survey, the National Survey of Postsecondary Faculty, TIAA-CREFF, the National Science Foundation Survey of Earned Doctorates, and the Collaborative on Academic Careers in Higher Education (COACHE). These sources have revealed

faculty relative satisfaction with the autonomy granted them in their work-lives and the relative dissatisfaction with aspects of reward systems like the tenure process, pay, and department politics. We also know there are significant differences by gender, race, institutional type, discipline, and appointment type in the way that faculty experience academic reward systems. As mentioned earlier, we can likewise see relationships between priority given to specific work activities, such as teaching and research and specific career outcomes.

Yet, there are problems with our framing of faculty experiences in reward systems. Both in the popular press (e.g., *Chronicle of Higher Education*, and education section of major newspapers) and in scholarship, we have tended to focus singularly on how one aspect of the faculty experience (e.g., gender, race and ethnicity, work priority given to teaching, or community engagement) is associated with outcomes of academic reward systems (such as not getting tenure or promotion, pay, national awards, or editorial positions), rather than considering the impact of intersectionality or multiple dimensions of the faculty experience on outcomes. We know that being a woman, or a community engaged scholar, for example, is usually not the only cause of someone's contract not being renewed, or paid less, or less often chosen for editorial appointments. Rather, there tend to be relationships or correlations between these characteristics and others in the ecology of the reward system. At the same time, there might be other factors associated with these outcomes that are out of view. As such, a limitation of extant research relates to the tendency to default to an assumed causation between factors for which at best we have found relationships and to not recognize other potential influencing factors.

Another concern in the study of reward systems is whether much of the data collected is in itself somewhat limited or isolated in perspective. For example, surveys often ask individual faculty if they are satisfied with their salary—without a fuller picture of their organizational milieu. It is rarely clear what backdrop researchers are asking them to evaluate their satisfaction against. Are they satisfied in comparison to other standards—based on their colleagues at their current institution, colleagues in industry, or based on compensation in the last institution? Individuals have complex interactions within their social systems that are all intricately interwoven. Isolating one characteristic and asking for views of it outside of the other key elements of reward systems and overall environment is likely missing critical context that helps to explain those findings. Also, most of this survey data is self-report from very specific vantage points—e.g., faculty member in a department, department chair, and/or chief academic officer. Yet, the panopticon image reminds us that one of the key aspects of academic reward structures is that many faculty, if not most, have no idea what merit pay, compensation packages, terms, or conditions for contract renewal are being negotiated around them with other faculty—they are obstructed from view. Many perceptions of both the overall fairness and unfairness of the system are greatly limited by the faculty member's singular experience, perception of others, and hearsay. Self-report data is also always limited by a potential halo effect of representing oneself in the best light (Yin, 2003). As such, questions about why faculty became involved in any

particular activity always seem to downplay financial incentives in lieu of intrinsic or altruistic motives, even if financial incentives have been shown as an effective recruitment tool.

In fact, the clandestine nature of traditional tenure systems (and by proxy of how individual contracts are negotiated, renewed, and ended) has made study of how they work both complex and difficult. Perna (2001b) observes that there is limited data on promotion and tenure decisions and pay on a national scale. Park (in press) observes that much of the research is cross sectional rather than longitudinal, which is a significant limitation for studies that wish to focus on changes in salaries over time. The COACHE study of Harvard University has perhaps had the most success in getting campuses to share institutional data on their own retention and tenure rates, but only as part of an aggregate for the purposes of benchmarking (Trower, 2009). Both the traditions of the tenure process and the desire to avoid bad press have kept most higher education institutions from sharing critical data about reward systems. For example, many research university deans keep actual faculty salaries in the sciences (where patent monies and start-up companies can be used to boost salaries) secret in locked filing cabinets, not for public disclosure. While national statistics have been able to calculate the overall tenure rate by institutional type or the total number of positions converted to non-tenure track, there are many more instances where individuals are not renewed or advised privately to leave before tenure, or where specific incentives—such as spousal hires or bonus funds are used to retain faculty—that are unknown or not understood in any collective sense.

Qualitative case studies such as those done by Tierney and Bensimon (1996) have provided a rich-in-depth exploration of individual experiences in academic reward systems. At the same time, even in-depth explorations of individuals are often limited by researchers not having access or the ability to interview the colleagues, department chair, and the personnel committees making decisions about an individual's work. In other words, there is little triangulation to verify perspectives. In addition, there have been few studies using direct observation, longitudinal, and historical approaches to understand change in academic reward systems. If we consider reward systems and critical decisions within them to be at the heart of higher education—and representative of an institution's true values and priorities—shouldn't we find better ways to document what factors are actually influencing those decisions? Such methods would include greater triangulation with researchers documenting both individual faculty cases and faculty and department chair decisions via archival document analysis and access to multiple sources of data and vantage points. It would involve looking at changes in the portfolios of individuals over time and changes in decision making and data on resource allocation. It would require approaches that see the connections between actions and decisions and various outcomes, such as relationships between the decision to increase the number of non-tenure track by 20% and external grant funds. In sum, we need more research that brings academic reward systems and the complex web of interactions within them into wider perspective. We need researchers to use more multi-method, mixed method, multi-level, and longitudinal analysis to understand

what is actually prioritized and recognized within institutions and across higher education.

Reform in Academic Reward Systems: New Influences and Contexts

There are many changes occurring in the academic profession that interact intimately with and have significant influences on academic reward systems. However, for the purposes of this section I chose to review recent changes (1990–2010) that were either intentionally put in place to address perceived deficits in previous academic reward systems or have accumulated over time into a major policy shift, as in the case of the move toward contingent labor. These are (1) redefining scholarship, (2) post-tenure review, (3) stop the clock and parental leave, (4) managerial and accountability reform, (5) ranking systems, and (6) the widespread shift from full-time tenure track appointments to non-tenure track and part-time appointments. Considering the known resistance of academic culture to certain kinds of change, it is important to ask whether any of these reforms or changes have permeated the basic set of assumptions guiding the reward system? To what degree have these reforms been “virtually adopted” (Birnbaum, 2000) or adopted at the edges of practice? Which reforms or significant changes in reward systems are conscious policy decisions and which have become unconscious assumptions or operating manuals for practice without the involvement of faculty? Each of the following sections addresses these questions while reviewing research on the prevalence and impact of the reform.

Redefining Scholarship

As is well known to most readers, in 1990, Ernest Boyer advocated in the landmark Carnegie report, *Scholarship Reconsidered*, for campuses to transform their reward systems to align with their missions and to acknowledge multiple forms of scholarship, including discovery, teaching, integration, and application of knowledge. In subsequent work the term application was amended to engagement to consider the reciprocal nature of relationships and knowledge flow. This framework resonated with Provosts, Deans, and department chairs struggling with striving academic cultures that did not seem to be rewarding teaching and service, much less community engagement. Glassick et al. (1997) followed the initial report with *Scholarship Assessed*, which provided actual criteria for assessing excellence in these four forms of scholarship. We know that hundreds of campuses adopted the Boyer framework and put it into their promotion and tenure and related reward system and evaluation policies (Braxton et al., 2002; O’Meara, 1997, 2002; O’Meara & Rice, 2005).

There have only been a few studies that have tried to look comprehensively at the impact of reforms to acknowledge a broader definition of scholarship on institutions

and faculty (Braxton et al., 2002; Huber, 2001, 2002; O'Meara, 2002, 2005b; O'Meara & Rice, 2005). For example, Braxton et al. (2002) explored whether reforms made at the institutional level have trickled down to influence faculty understandings of scholarship or involvements in different forms of scholarship. The authors found that while teaching and discovery (research) remain institutionalized in workload, only discovery was considered fully adopted into faculty values and assumptions. O'Meara (2002) conducted case studies at four colleges and universities that had reformed their promotion and tenure policies as suggested by Boyer (1990). She found that these campuses experienced improvements in balance across reward systems, faculty involvement in alternative forms of scholarship, and faculty satisfaction with institutional work life. Yet, there were specific values and beliefs that worked for and against the assessment of engagement as scholarship, even among its advocates. These had to do with the purposes, products, processes, and audiences of scholarship (O'Meara, 2002). O'Meara and Rice (2005) conducted a 3-year study that included a national survey of chief academic officers (CAOs) at 4-year institutions, regional focus groups with CAOs, and demonstration projects with nine campuses all amending their reward systems as suggested by Boyer (1990). CAOs from reform institutions where changes were made to support and reward multiple forms of scholarship were significantly more likely than CAOs at institutions that had not made similar reforms to observe that innovation was encouraged and rewarded, the primary interests of new faculty hires match the institution's primary goals and direction, that faculty involvement in the scholarships of teaching, integration, and engagement had increased, and that over the previous 10 years their institutions had found a greater balance in the faculty evaluation process (O'Meara, 2005b, 2006). Huber's in-depth anthropological exploration (2004) of faculty crafting careers around the scholarship of teaching complements these other two studies by examining the nature of faculty teaching scholarship and how it has been evaluated in reward systems. As mentioned in the external influences section, there has been significant policy reform and efforts at the disciplinary association and federal level to influence academic reward systems. This recent work of disciplinary associations and interdisciplinary academic partnerships (i.e., Community Campus Partnerships for Health and Imagining America) have also moved the issue forward by better defining engaged scholarship, identifying its benefits in specific disciplines and areas of public life, and providing concrete ways to assess excellence.

In terms of whether this reform was transformative or virtually adopted, the answer lies somewhere in the middle. For academic leaders it has transformed the way scholarship is discussed and has shaped new scholarly opportunities and better promotion and tenure guidelines for many institutions at the middle and lower end of the prestige hierarchy (where most students attend). Research universities, many faculty in the sciences, and striving campuses seem to have been somewhat immune, if not resistant, to these discussions, in part to protect the status quo and in part because of epistemological differences. The culture of research universities may also play a part as contributions to disciplinary knowledge are highly valued in this context.

Post-tenure Review

Perhaps one of the quickest reforms to sweep through academe during the 1990–2010 period was post-tenure review. Post-tenure review was initiated as a response to several concerns by legislators, citizens, and administrators regarding the uncapping of the mandatory retirement age and the potential of faculty extending retirement plans, a lack of accountability for faculty performance following tenure, and a sense that there were not ways to fire faculty for poor performance. In 1983 and again in 1995 the AAUP denounced post-tenure review, or the periodic evaluation of tenured faculty (usually every 5–7 years), as a major threat to academic freedom, creativity, and collegial relationships. Yet, recognizing that the accountability movement and actors pushing for post-tenure review seemed to have won the argument, AAUP put forth minimum standards for good practice and recommendations for implementing formative, as opposed to summative, post-tenure review. By 1999, 37 state systems had engaged in some level of post-tenure review reform or discussion (Licata & Morreale, 2002). Outcomes related to post-tenure review are mixed. Case studies with best practice campuses that engaged in formative, professional growth-focused post-tenure review seem to have provided faculty opportunities for renewal, new career directions, and the strengthening of institutional commitments (Licata & Morreale, 2002). Other surveys and case studies of post-tenure review implementation have found, however, that for a variety of reasons, ranging from antagonistic relationships between unions and administration, to values and beliefs around issues of collegiality and academic freedom, to career stage and specific institutional contexts in implementation that post-tenure review has not had the impact its initiators intended (Bensimon et al., 2003; O'Meara, 2003, 2004; Wood & Johnsrud, 2005). At the same time, it is difficult to tell on a large scale. The implementation of post-tenure review may have encouraged some faculty to retire on individual campuses to avoid undergoing greater scrutiny of their vitas, and some faculty have clearly benefited from professional development funds resulting from their reviews. Interestingly, both advocates and critics of post-tenure review cite the fact that very few faculty were actually fired because of post-tenure review as a sign of success of the program. Critics today argue most post-tenure review programs are just paperwork and have no teeth; proponents herald it as successful accountability reform and opportunity for professional renewal. Few argue that it has revolutionized academic reward systems.

Balance of Work and Family Policies

For some time feminist scholars and scholars of the academic profession have argued that the traditional tenure clock of between 5 and 7 years does not suit the life course of women faculty, many of whom need to balance work and family commitments during this time (Armenti, 2004a, 2004b; Finkel & Olswang, 1996; Mason & Goulden, 2002; Perna, 2005a; Williams et al., 2006). While the issue

has received the most press in studies of women scientists at research universities, there has been widespread conversation and policy reform on the issue over the last two decades. Specifically, many research universities and other campuses have put new policies and support mechanisms in place to help academic parents balance work and family while on the tenure track. For example, the University of California, Berkeley, the University of California, Los Angeles, the University of Michigan, Stanford University, the University of Massachusetts Amherst, and MIT all offer some combination of work family policies. These include stop the tenure clock policies, parental leave, reduced teaching policies, subsidies for childcare, and part-time options. Stop the tenure clock policies allow academic parents to request a one-semester or 1-year extension of the time on their tenure clock for child care reasons and parental leave allows faculty the ability to take time away from campus when a young child joins their family through birth or adoption.

While the advent of these policies has been an important reform of academic reward systems in terms of equity for women and academic parents, there have been several research studies on the implementation of these policies that show that they are under-used. Women faculty fear they will be “mommy-tracked” career wise if they take advantage of them, and men and women experience bias against time off for care-giving in their departments and colleges (Armenti, 2004a, b; Colbeck & Drago, 2005; O’Meara & Campbell, 2008; Ward & Wolf-Wendel, 2007), suggesting that basic assumptions behind the “ideal worker” (Whyte, 1956) have not changed or they have only changed somewhat through these reforms. There have also been structural issues in how these policies are crafted, which can limit participation (e.g., some policies are gender specific, require that the faculty member provide at least 50% of the childcare to be eligible, are not available for same sex parent births and adoptions, and are unpaid making them impossible for faculty who are the family’s main bread-winner) (O’Meara & Campbell, 2008). These policies have had a symbolic impact in bringing attention to work and family issues and how they impact life on the tenure track. However, more research is needed to ascertain which of the policies (e.g., stop the clock, parental leave, part-time tenure track, and part-time faculty return options) have positively influenced faculty retention, and climate for balance of work and family in departments, and whether there have been any negative side effects.

Managerial Reform

Over the last 25 years there has been a significant wave of for-profit, business-oriented management techniques introduced to higher education systems in an effort, at least an espoused effort, to increase efficiency, accountability, and to motivate faculty toward high-performance and strategic goals (Birnbaum, 2000). In most cases managerial reform was put in place to “fix” aspects of academic culture and operations that were considered by the public, trustees, and legislators, and administrators to be broken or not working to full capacity. Ironically in 2000, Birnbaum (p. 215) quoted the view that “if we could just run our universities as

General Motors is managed, most of our educational problems would vanquish.” Few make this explicit comparison 10 years later as many automobile companies went bankrupt since these words were written. From a political perspective, it can also be argued that many of these reforms were put in place to shift power from autonomous professionals with significant authority over the curriculum, hiring, and evaluation processes back toward administrators (Birnbaum, 2000; Rhoades, 1998; Slaughter & Rhoades, 2004). Three examples of such reforms that have now become a staple on many campuses are illustrative of this theme: merit pay, differentiated workloads, and strategic planning.

Based on the American Association of University Professors (2000) definition, merit pay is the “practice of allocating annual salary increases to individual faculty members based on the quality of their performance” (Euban 2003). Widely considered one of the major influences of the corporate world on higher education, many higher education institutions now have merit pay policies in place. Engvall (2010) observes that some of the fundamental assumptions behind merit pay are embedded in the idea of tournament theory, developed in part by Lazear (1998) who observed, “the salary of the vice president acts not so much as motivation for the vice president as it does motivation for the assistant vice president” (p. 226). As such, in order to create a “performance-oriented culture” (p. 94) in an organization, the leadership must create incentives that tie salary to performance as opposed to providing automatic raises or across the board pay increases, even if they are small. There are many critiques of merit pay systems, outlined well by Engvall (2010), including merit pay assumes all outputs are measurable, merit pay is subject to bias, prejudice, and misjudgment of administrators in making decisions, it curbs free speech by creating incentives for faculty to “stay in line” with what administrators want, it creates a more competitive workplace, and it has the potential to incentivize the wrong things. In his study of merit pay, Heneman (1992) observed that “merit pay is allocated on the basis of subjective ratings of employee performance rather than on the basis of more countable indicators of performance” (p. 12). Nelson and Watt (1999) also argue that merit pay increases disciplinary pay disparities and enhances the negative consequences of academic capitalism.

Boyer (1990) was one of several higher education leaders to suggest the use of “creativity contracts,” “an arrangement by which faculty members define professional goals for a 3–5 year period, possibly shifting from one principal scholarly focus to another” (Boyer, 1990, p. 48). More commonly called differentiated workloads, many campuses have put such policies in place to try to better align their mission and goals with the academic reward system and what faculty actually do. Clegg and Esping (2005) described Kansas State University’s enactment of such a policy described as “flexible allocation of time and talent.” While such policies have made important inroads in helping faculty who want to focus on teaching and community engagement adjust their workloads to do so, it is important to recognize that this policy was yet another fix for a reward system many considered to be “run-away,” that is, running away from the mission and goals of the institutions. As such it can be critiqued as not getting at the core issues, and of creating two tracks of

faculty, those who put time toward teaching and service and those who are more highly regarded for emphasizing research.

As managerial reform has swept through higher education, few have studied how one of its main components, strategic planning, has influenced academic reward systems (Birnbaum, 2000). Across the United States, institutions have engaged in strategic planning discussions and exercises that have resulted in program closure (Eckel, 2000), and a shift in resources from instruction to administrative activities (Morphew & Baker, 2004) and from departments judged to be peripheral to core to the academic mission. Often such strategic planning processes have had input from faculty. Yet, many of these major shifts in resources and decision-making processes have had no faculty involvement, and there have been winners and losers as resources have been redistributed (Burgen, 2006). Strategic planning creates incentives for departments to steer future curriculum and grant seeking behavior, faculty hiring plans and related initiatives toward activities perceived to be related to the strategic plan. It is important for future research to explore how these managerial reforms are reshaping reward systems.

Rankings

There has been a widespread shift among doctoral and research universities to connect strategic planning, merit pay, and promotion decisions to the US and world-wide ranking systems. Before recent revision the Carnegie classification system criteria for research universities rewarded shifts in resource allocation toward research and away from instruction (Morphew & Baker, 2004). The creation of *USNWR*, *Money*, and related rankings have significantly influenced admission processes (Ehrenberg, 2003; Meredith, 2004). Striving toward these rankings, including newer world rankings of research universities, influences promotion and tenure standards, as well as recruitment, merit pay, faculty workload, travel monies, department resources, and program accreditation (Hazelkorn, 2009; Marginson, 2006; Morphew & Baker, 2004; O'Meara, 2007; O'Meara & Bloomgarden, 2011; Sweitzer & Volkwein, 2009; Ward & Wolf-Wendel, 2007; Webster, 1992). Thus, the impact of rankings on academic reward systems, particularly in doctoral and research universities and top-tier liberal arts colleges, has been transformative, though the effects understudied.

Shift to Non-tenure Track Appointments

Many faculty unions and national associations have reported the trend from tenure track appointments to non-tenure track appointments, and many scholars have studied it (Benjamin, 2002; Gappa et al., 2007; Schuster & Finkelstein, 2006). Some key statistics from these studies are that tenure ineligible full-time appointments account

for 30% of the academic workforce, and over half of new full-time appointments are in tenure ineligible positions (Schuster & Finkelstein, 2006). This trend has occurred without interruption over the last 30 years with only minimal tracking of outcomes. As higher education state budgets for higher education shrink, it is clear that this trend will continue unless faculty and academic leaders create cost-effective alternative strategies. Gappa et al. (2007) offer key workplace elements that should be embedded in non-tenure track appointments such as equity, academic freedom, flexibility, professional growth, and collegiality. They also observe that “tenure confers an important status on faculty members,” and “no better model has been found for academic careers” (p. 193). This shift over time has likely been the most transformative to academic reward systems and has occurred with the least consensus among current faculty. The next section considers some of the implications of this trend for both policy reform and future research.

Summary of Recent Reforms or Shifts in Academic Reward Systems

Returning to the questions introducing these reforms, there is a paradox. Higher education academic reward systems are often critiqued as being one of the hardest things to change about higher education. Yet, the paradox is that considering the issue from another perspective, the US higher education system and its academic reward systems have had more change, more quickly, than almost any other industry imaginable, just in the last 30 years (Rhoades, 2010; Schuster & Finklestein, 2006). The reforms mentioned here reinforce the observation of the intransience of reward systems. Research shows many academic parents want to take advantage of new stop the clock policies but have not because of bias in their departments and fear that taking advantage of the policy would hurt their careers (Colbeck & Drago, 2005; Erskine & Spalter-Roth, 2005; Williams et al., 2006). While broader definitions of scholarship have been integrated into many faculty evaluation policies, they come up against powerful biases toward traditional research when scholars try to use them (O’Meara, 2002). Likewise, post-tenure review has been scorned and virtually ignored at times because of faculty perceptions that it goes counter to valued norms of autonomy, academic freedom, and collegiality (O’Meara, 2003; 2004). Part of the lesson here is that context is key in trying to implement change in reward systems (as implementation has differed by institutional type and discipline). Another lesson is reforms to reward systems are often “virtually adopted” but in real time change very little, or at least change things very slowly. Alternatively, the major shift from full-time tenure track faculty to multi-year or annual contracts has been momentous in terms of impact on reward systems. In addition, major reward system decisions and restructuring are now based on ranking systems that did not exist 30 years ago or have any meaningful influence. Future research needs to keep both perspectives—the major transformation and the intractability of reward systems in view.

Implications for Research on and Reform in Academic Reward Systems

A synthesis of scholarship and commentary on the current condition of academic reward systems in 4-year institutions suggests the following conclusions. After each conclusion I provide examples of studies from which it was drawn.

- A majority of institutional reward systems are not in alignment with institutional mission and rhetoric or time faculty spend on teaching, research, and service (Boyer, 1990; Diamond, 1999; Fairweather, 2002; Finnegan & Gamson, 1996).
- Across academic reward systems in 4-year institutional types there is a bias toward traditional research and cosmopolitan, rather than local, faculty roles (Clark & Corcoran, 1986; Creamer, 1998; Fairweather, 1996, 2005; Gouldner, 1958; Rhoades, Kiyama, McCormick, & Quiroz, 2008).
- While there has been reform of promotion and tenure policies (O'Meara & Rice, 2005), most systems have been slow to acknowledge broader definitions of scholarship, interdisciplinary scholarship, and new venues for dissemination of scholarship (Braxton et al., 2002; Huber, 2002; Rice & Sorcinelli, 2002; Rice et al., 2000).
- Academic reward systems have been inequitable via embedded structures and cultures that disadvantage women and faculty of color (Aguirre, 2000; Finkel & Olswang, 1996; Park, 1996; Terosky et al., 2008; Tierney & Bensimon, 1996; Trower & Chait, 2002; Williams et al., 2006), bias against family care-giving (Armenti 2004a, b; Colbeck & Drago, 2005), and a lack of acknowledgment of engaged, activist, and interdisciplinary scholarship (Baez, 2000; Bloomgarden, 2009; Hale, 2008; O'Meara, 2002; Umbach, 2006; Ward, 2010).
- Academic reward systems have been shifting at an accelerated pace toward part-time appointments and non-tenure track appointments without serious consideration of differences in performance and productivity of tenure versus non-tenure appointments, the working conditions necessary to make non-tenure track appointments effective, or their long-term value over tenure track appointments (Baldwin & Chronister, 2002; Bland et al., 2006; Benjamin, 2002; Gappa et al., 2007; Jaeger et al., 2007; Schuster & Finkelstein, 2006; Umbach, 2007b).
- The academic reward systems of many campuses are fueled by aspiration and striving—that is, they imitate the work expectations, priorities, and standards of campuses more successful in the prestige hierarchy of higher education rather than reflect their own distinctive missions and identities (Morphew & Huisman, 2002; Morphew & Baker, 2004; O'Meara, 2007).

Building from these conclusions, I identify five sets of implications for future research and practice worthy of consideration by researchers, faculty, academic leaders, disciplinary associations, and other external groups that influence and shape academic reward systems. In each case, the research and practice implications are integrated into one statement, followed by discussion of each.

- I. We need to better understand the relationships between various elements of academic reward systems and effects on students and institutional outcomes and articulate those outcomes to all major decision-makers and stakeholders in higher education.

Chait (2002) observed that ‘Despite the academy’s standards for what constitutes scholarly research and discourse in the disciplines, questions about tenure are typically answered by impressions, convictions and stories, or not at all’ (p. 2). No doubt, the human and organizational systems aspects of this issue, that is, the complexity of tying one particular element of the reward system definitively to higher education outcomes like learning or quality of research, is partly to blame for the lack of research to inform policy. Also, researchers have focused more on what is not equitable and fair about reward systems than on trying to create linkages between different aspects of reward systems and key outcomes. However, this research is emerging and in some important ways. For example, research has begun to link faculty appointment types to productivity in teaching and learning (Umbach, 2007b), research (Bland et al., 2006), retention (Jaeger et al., 2007), and graduation (Ehrenberg & Zhang, 2005).

Case study, longitudinal, and historical research should be done to examine the effect of change in academic reward systems on outcomes for key stakeholders. For example, case studies should be done from a historical perspective on campuses that have moved from mostly tenure track to mostly non-tenure track faculty, from promotion expectations of a limited amount of scholarship to a significant body of scholarship, from expectations for limited to significant external funding, and from a teaching load of four courses per semester to two. Such shifts over time, especially in the context of striving for prestige in college rankings, should be examined for changes in student satisfaction, time spent with faculty out of class, faculty public service commitments, and faculty involvement in educationally enriching activities.

Once these relationships are better understood they need to be shared strategically with campus administrators and with national associations and agencies that exert a powerful external influence on reward systems. For example, if the shift in workload (e.g., four courses to two courses per semester) is found in certain institutional settings to be having a negative impact on important student outcomes, actions might be taken on campuses to curb the trend and experiment with alternatives that meet institutional needs without these negative outcomes. These alternatives, such as differentiated workloads, offering fewer sabbaticals or more joint appointments could be compared for their effects over time in such a way that campuses make more evidence-based decisions about trade-offs, in partnership with faculty. State systems of higher education could use such data about the relationship between elements of reward systems (e.g., merit pay for excellent advising) and student outcomes (e.g., academic performance) to amend reward systems to meet institutional goals. If researchers are able to find tangible, replicable relationship between key elements of reward systems and critical student outcomes, they could become part of accreditation processes and ranking systems, and they could be linked to national studies of high impact practices like the National Survey of Student Engagement.

- II. The trend toward non-tenure appointments needs to be examined carefully and interrogated for both short-term and long-term outcomes. Partnerships are needed to study outcomes from a national perspective and on individual campuses. If costs outweigh benefits, alternatives need to be developed that balance faculty and institutional needs.

As Bland et al. observed in their analysis of the shift toward contingent appointments, “unfortunately, most schools’ current collection of faculty appointment types have not occurred as a result of thoughtful planning but rather through uncoordinated decisions by individual subunits of the institution” (p. 117). The two most common explanations given for this trend are cost and flexibility. It is widely perceived, rather than proven, that non-tenure track appointments are more flexible because faculty can be fired more easily or their workload adjusted as institutional needs change. Also, part-time appointments are less expensive than full-time appointments. However, in no organization is up-front cost the only consideration. Baldwin and Chronister (2001) observed that because they do not perform the same functions, “simple conversations based on the costs of tenure-track and non-tenure track faculty overstate the compensation savings that accompany the use of lower-salaried full-time, non-tenure track faculty” (p. 118). In fact, most administrators do not seem to track the performance of non-tenure track and part-time faculty in such a way as to be able to compare outcomes (Cross & Goldenberg, 2003).

There are important implications of this issue for research and for policy reform. It is important that institutional researchers begin to ask harder questions that link faculty appointment types and working conditions to retention, time to degree, graduation rates, student learning, and projects of significant public value (such as the creation of interdisciplinary research centers that draw external funding or local economic redevelopment that improves the conditions of the physical locations of colleges and universities). Building on Rhoades’s (2008) observation that faculty are value-added assets, not just drags on revenue—and using historical approaches researchers might ask which revenues and other value-added products have faculty in different appointment types brought to an institution over time? How was their motivation to do so influenced by specific elements of reward systems? Are institutions moving toward contingent labor experiencing financial benefits that offset potential costs? Long term, are these appointments really more flexible, or do they become de facto tenure and cost institutions the same or more? For policy, “any proposals for alternative appointments should be considered only if they provide evidence not only of how much they increase financial flexibility but also of how they will improve faculty productivity and commitment and the attractiveness of an academic career” (Bland et al., 2006, p. 117). Simply having evidence that contingent appointments do not save institutions money, or do not provide greater flexibility, will not stop decisions to move to non-tenure track appointments. However, it would provide decision-makers a better understanding of the costs, trade-offs, and consequences of various decisions.

III. We need to better understand the structural and cultural factors likely to induce individual sense of agency and professional growth in navigating reward systems, as well as those factors most likely to foster a sense of learned helplessness. Using these findings, we need to put concrete reforms in place that make departments, colleges, and institutions better academic homes.

For some time, study of the academic profession has focused more on constraints facing faculty than on the conditions within individuals, institutions, and their environment that promote professional growth (O'Meara et al., 2008). The same is true of the extant research on academic reward systems, which has revealed unfair work environments for women and faculty of color, and misalignment between institutional rhetoric and actual rewards. Yet, research rarely focuses on how certain elements of reward systems can be positive influences on faculty professional growth, defined by how faculty learn, assume agency, develop professional relationships, and make commitments and contributions (O'Meara et al., 2008). Such studies could be interdisciplinary and build on new research from the fields of psychology, human development, and sociology to study the new contexts of the academic profession today.

As someone who frequently speaks to faculty senates, faculty, and administrators to assist with reform of faculty evaluation processes, I hear four key complaints often repeated. First, their campus reward system has ambiguous and often-changing expectations for faculty performance. Second, the expectations are both too high and out of line with the mission of the institution. Third, everyone—faculty and administrators—feels largely powerless to change the evaluation system, because they are not in control of all levels of the system and because of the status system of higher education. Fourth, as a result of these frailties the system is dysfunctional for individuals and the institution. Embedded in these policy discussions is usually a strong diagnosis of what is wrong but also a lack of imagination and sense of agency among the individuals involved about how they could influence different conditions (e.g., in faculty themselves and their behavior, in departments and colleges, and at the institutional level).

Amartya Sen defines human agency as “the ability to act on behalf of goals that matter to [oneself]” (Alkire, 2005, p. 218), which he argues is a core ingredient of positive social change. Alkire (2005) observes that agency is a key component of individual well-being. Likewise, I would argue that the degree to which the leaders of an institution feel they can be “actively involved—given the opportunity—in shaping their own [institution’s] destiny” (p. 218), as opposed to passive recipients of the influence of the status system of higher education, is critical to institutional well-being. While there is no long tradition of using the concept of agency to study academic reward systems, the concept of agency has been used to study faculty of color service in higher education (Baez, 2000), how faculty balance work and family decisions (O'Meara & Campbell, 2008) or find new opportunities to learn post-tenure (Neumann, Terosky, & Schell, 2006), and as one of four aspects of professional growth (O'Meara et al., 2008). In concert with other interdisciplinary approaches, it is an excellent theoretical tool with which to study

structures and cultures that act as generative incubators for professional growth within reward systems and those structures and cultures that cause frustration and even encourage a sense of learned helplessness (Peterson, Maier, & Seligman, 1993).

One example relates to the issue of transparency in academic reward systems. A major finding of studies from Harvard's COACHE project (Trower, 2008, 2009) has been the distrust that women, faculty of color, and younger faculty feel about the integrity of academic reward system decisions on their campuses. Many studies of organizations have shown the benefits of enhanced transparency to employee trust of their leaders (Bolman & Deal, 1997). Drawing on Foucault's concept of the panopticon, there is the implicit assumption in many reward systems that somehow keeping expectations fluid and ambiguous "keeps everyone on their toes," catalyzing performance. Embedded in the tenure and promotion system especially seems to be a simultaneous understanding by tenured faculty that this process is in fact a sort of hazing that, while not ideal, separates the wheat from the chaff in terms of quality faculty. However, the assumption that the lack of clarity in qualifications for tenure or even for contract renewal fuels performance seems at best unlikely and at most incorrect. There is much research on motivation and drive (Bolman & Deal, 1997; Dweck, 2006; Pink, 2009), particularly of highly educated autonomous workers that detail the benefits of having clear goals and objectives. Likewise, the newest research on generation of X and Y faculty observes that these workers thrive in environments with significant feedback and clarity for their organizational and individuals' goals. Alternatively, there is much research from the higher education community showing that the current system of ambiguous expectations has opened up departments to brutal politics around performance and has been extremely dysfunctional, leaving individuals at half capacity, feeling bruised and taken advantage of (Ward & Wolf-Wendel, 2007). There are efforts underway at many research universities to create "dashboards" or databases with information on faculty pay, merit pay, vita, lab space, and related career information so that women faculty scientists feel that they have the same knowledge or capital in negotiating for resources for themselves and their work in academic reward systems (Quinn & Litzler, 2009). Such efforts to put merit criteria and decisions, personnel statements, and resource distribution decisions online for public scrutiny could enhance faculty sense of transparency and fairness and thereby also enhance their sense of agency in career development. Research is needed to understand which types of interventions are most effective at creating environments where faculty feel agency in their academic reward systems. Such research could also reveal those factors that leave faculty feeling frustrated, abused, or helpless inside their reward system and what kinds of interventions and/or professional development can correct those situations.

IV. The struggle to reward newer forms of scholarship is epistemological and political. It works against the entrenched interests of individuals in power and the existing status system of higher education. It needs to be studied as such and approached as a cultural, not just technical, struggle.

This point—that definitions and epistemologies that surround what we value about scholarship are outdated and need to change—has been made so many times in the last two decades by so many “idea leaders” that the point itself seems dated. The argument has been made based on the rigor and importance of new forms of scholarship (Boyer, 1990; Hale, 2008; Schon, 1983), based on the fact that traditional definitions marginalize the work of women and faculty of color (Baez, 2000; Clark & Corcoran, 1986; Creamer, 1998) and based on changes in the economy and ecology of knowledge production (Hartley & Saltmarsh, 2011). The implication here is not that there is anything wrong with traditional forms of scholarship or that they should not be well regarded in reward systems. The point has been a request for more space at the table.

The issue that has been understudied in research and discussed in policy reform is really the degree to which there is an epistemological and a political struggle underway, one that could benefit from explicit focus on the entrenched interests of individuals in power and assumptions of the existing status system of higher education. Often those who have advocated within the policy community for criteria and methods to evaluate the scholarship of teaching or engagement have approached the issue from a technical perspective, rather than a political and cultural one. For example, efforts have focused on creating criteria for the assessment of multiple forms of scholarship (Glassick et al., 1997), assuming that individuals with vested interests in reward systems for traditional scholarship would use these criteria if they were just placed in promotion and tenure policies. However, given the qualitative nature of these assessments, it is relatively easy for individuals who do not believe in newer forms of scholarship to use both their own assumptions and their own interests as guides rather than the policies (O’Meara, 2002). Lather (1996) observes that “methodology often diverts attention from more fundamental issues of epistemology” (p. 2). Here the issues are larger than how to assess this work.

As such, future research needs to consider campuses where there is struggle to assess broader forms of scholarship from a political or power perspective (Bolman & Deal, 1997) as well as from the lens of epistemology and norms in science. As previously mentioned the normative structure of science and its four norms are very influential in the fields of science and in research universities. For future research, scholars might consider these four norms and Mitroff’s (1974) work on counter-norms. Mitroff (1974) identified the counter-norms of solitariness to the norm of communalism and of interestedness to the norm of disinterestedness, organized dogmatism to organized skepticism and particularism to universalism, and argued that these, too, have a place in our academic workplaces. Mitroff (1974) suggested future research focus on understanding the conditions that promote the dominance of one set of norms over another. This line of inquiry would be particularly useful in studying the claims by many women and faculty of color whose scholarship focuses on identity, or faculty involved in community engagement with a clear social justice or social change function, that their work is often summarily “disregarded” as not rigorous, not objective, and thus not meritorious. Research might explore how traditional expectations about what constitutes high-quality scholarship overlap with

these norms or counter-norms and how doctoral socialization, disciplinary associations, and entrenched interests in academic departments reinforce and maintain them.

V. Academic reward systems are rarely distinctive aspects of institutional identity, but they could be. Research is needed to explore how and in what circumstances institutions can truly align their reward systems with their mission and succeed in the higher education market.

Many scholars who study academic organizations have observed the importance of institutions being “self-regarding,” that is aware of their own organizational goals and processes, in order to be effective (Birnbaum, 1988, 1992; Senge, 1990). Two of the best ways for campuses to become more self-regarding are (a) to study their own academic reward systems more carefully so that they can make data-driven decisions (as was suggested with appointment type) and (b) to consider ways to more creatively use their own internal academic reward systems to become more distinctive. The second point relates to a greater awareness on the part of faculty and administrators on any individual campus that their reward system will always be impacted by external forces. The status system of higher education that privileges cosmopolitan over local roles (Rhoades et al., 2008) is not going away any time soon. However, academic reward systems are an opportunity to affirm institutional values, identity, and mission. They can be used by faculty and other institutional leaders to make a distinctive statement about how their institution is different. This is, in fact, very hard to do, as the forces pushing campuses toward “strategic imitation” (Rhoades, 2010) of each other’s reward systems are many. Yet, researchers can play an important role in studying campuses that have attempted to step out of the pack. For example, Syracuse University revised its promotion and tenure process to be in alignment with an institutional focus on “scholarship in action.” In the University of North Carolina, Greensboro revised its evaluation policies to be in alignment with its vision as a “student-centered research university.” What does this mean in their actual reward systems for who is regarded, for what work, how, and why? Likewise, academic leaders have stepped out of the pack to use retention funds and merit pay to reward faculty loyalty instead of outside offers, to provide bonuses for excellence in service learning, and to reward faculty with the best teaching evaluations. In terms used by Rhoades et al. (2008), this kind of creative use of existing elements of reward systems could provide incentives for “local cosmopolitan” faculty roles and disrupt assumptions that all academic reward systems reward the same things. However, we need to know more about these strategies and whether they work as intended. Using the lens of organizational change, we can examine whether such attempts achieve their intended goals or act as window dressing against more powerful external forces (Birnbaum, 1988, 2000). In sum, researchers can help reveal the advantages and limitations of both imitation and distinction in reward systems. Campuses can use this information to guide reform.

Conclusion

Reward systems are an ever-present, ongoing system of participation, action, and consequences that influence faculty priorities and careers. Among faculty roles, research receives the greatest regard in promotion and tenure decisions, pay, and recognition in the field in 4-year institutions. Research to date has revealed many weaknesses in reward systems such as structures and cultures that thwart the advancement of women and faculty of color and ways in which reward systems are out of alignment with institutional mission and goals. Despite the trend toward non-tenure track appointments, no research has shown alternative appointments are more effective in meeting key goals in higher education. In fact, little research has been able to identify how specific elements of reward systems impact key student, institutional, and societal goals for higher education. This is a critical area for future research.

Returning to the image of Foucault's panopticon, it is wise to observe that academic reward systems today operate as much from misperception as from perception. While research has revealed important context on what matters in reward systems, and how they operate, much of our view, like that of Foucault's prisoner, remains obscured. In the absence of research and evidence that connects elements of academic reward systems to student outcomes and key institutional goals, key decisions in reward systems are made blind to the consequences for most stakeholders. In addition, institutional reward systems are affected now more than ever before by external forces, including the status system of higher education, with significant imitation of institutions higher in the academic hierarchy (Morphew & Huisman, 2002; Rhoades, 2010).

It is critical for higher education researchers to reveal the ecologies of reward systems in ways that offer viable reward system policy alternatives. It will also be important that researchers unpack the aspects of reward systems that while long considered rights and privileges are not connected in meaningful ways in certain contexts to student learning, scholarship, and shared governance. We need to understand how elements of academic reward systems enhance individual agency and professional growth rather than foster learned helplessness. It is because reward systems have the potential to make institutions more distinctive and because they are how institutions value faculty professional lives that scholars owe higher education this wider perspective.

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Chapter 6

In the National Interest: The College and University in the United States in the Post-World War II Era

Philo A. Hutcheson and Ralph D. Kidder

Historians tend to use key events in order to begin or end their analyses. Obvious chronological markers include wars, economic upheavals, and major government decisions. In this regard, then, historians of higher education often choose to use the end of World War II as a marker, a point of time at which life in this country began to shift in important ways.

Nevertheless, historians also must attend to the argument that in many ways, life does not necessarily change substantially with the advent of these major events. Laws come into being, but laws do not fully regulate human behavior. Relations among different groups may shift, but fundamental differences and similarities may sustain. And, clearly, economic structures, as well as who benefits and who does not as a result of those structures, tend to be enduring. Hence, the writing of history is a complicated task, far more difficult than a chronological gloss of who did what when. Such matters as who did what when are indeed important to historians, but they are bereft of independent meaning, and it is the historian's challenge to give meaning to the raw description of events.

We set out in this chapter to provide readers with, first, the chronology of higher education in the United States from 1946, the year after World War II ended and the nation pursued its shift from a wartime to a peacetime economy, to 2001 and the passage of No Child Left Behind. The latter choice may appear curious, since No Child Left Behind was a re-authorization of the 1965 Elementary and Secondary Education Act. However, it is deliberately curious because, second, we argue in our conclusion that higher education now faces the distinct possibility of a future very different from its past, symbolized by the federal expectations in No Child Left Behind.¹ This future, however, has a strong foundation in the past, and we use two examples to articulate that foundation: first, the shift from private junior colleges for

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¹Readers should also know that historians become very uneasy about bringing discussion of the past too close to the present. There is no rule about what constitutes "too close," but it is easy enough to observe a clear uneasiness when historians get within a decade of the present.

women in the 1940s and 1950s to the role of community colleges in educating adult women in the 1970s; and second, the capacity of research universities as well as highly selective liberal arts colleges to sustain limited access to the most privileging opportunities in higher education. Hence, while as we will show, the expansion of enrollment in higher education in the post-World War II era was remarkable, including expanded access provided by the urban state universities segment of higher education, the issue of who benefited from expansion remains problematic.

We have organized this chapter by first providing a decade-by-decade analysis of US higher education from the mid-1940s to the early 2000s. Following that analysis, we provide a comparison and contrast of the roles of 2-year colleges and prestigious colleges and universities, focusing in the former case on gender and in the latter case on long-term benefits of attending elite institutions of higher education. We conclude the chapter with two discussions, the first addressing No Child Left Behind and the second highlighting gaps in the literature on the history of US higher education in the post-World War II period.

We draw upon two sets of resources. Although educational historians typically use primary sources such as archives and oral histories (Kaestle, 1992), in this chapter we rely on secondary sources because this chapter is an overview of what historians have concluded about US higher education in the post-World War II era. Since historians more often use books than articles for their comprehensive examinations of topics, many of our secondary sources are historical books; but, in addition, there are a number of historical chapters and articles, as well as data sources such as the *Digest of Educational Statistics*. We do not, however, draw to much extent upon institutional histories because we are offering an overview of institutional types and control, along with the various constituencies of higher education. The other set of resources also includes books and articles, but here those works are contemporaneous—so, in the instance of our discussion of collective bargaining, we draw upon several of the early books examining that phenomenon—although we do not draw upon primary sources such as documents. Fortunately, for those interested in primary sources, a strong comprehensive set of documents about higher education in the post-World War II era has recently been published (Smith & Bender, 2008).

As a chronological overview, the landscape of higher education in the United States after 2000 is substantially different from how it appeared in the late 1940s. In 1949, there were 1,851 degree-granting colleges and universities, both 2-year and 4-year.² Just over 1,300 were 4-year institutions, and about 520 were 2-year colleges. In 2001, there were 4,182 degree institutions, of which 2,450 were 4-year institutions and 1,732 were 2-year institutions; the number of colleges and

²One problem in conducting historical research is that reports about even fundamental matters of higher education, such as the number of institutions and the number of students, are uneven, with different starting years, different years over time, and different definitions of the numbers (for example, whether “students” as a category means all students, only full-time students, or all full-time equivalent numbers of students). So, in this case, while we start our historical analysis with 1946, federal data about institutions of higher education begin with 1949.

universities more than doubled but the number of 2-year colleges more than tripled. In 1949, about 35% of the colleges and universities were public and 65% were private; in 2001, almost 59% of the colleges and universities were public, while 41% were private (Digest of Educational Statistics, 2009). Immediately, then, the question of what happened becomes intriguing. How did such a substantial shift occur in proportions of institutional type and control? Further, these data do not include the massive growth in the number and enrollment of degree-granting for-profit institutions, a matter to which we return in the conclusion.

Just as startling are changes in the number of students. In 1947, there were nearly 2.4 million students enrolled at all levels of higher education, from 2-year colleges to Ph.D. programs. By 2001, there were almost 16 million students across higher education, almost a sevenfold increase (Digest of Educational Statistics, 2009). In the same period, the nation's population basically doubled. What happened to swell these enrollments, and why?

We argue that two keys aspects of life in the United States in the post-World War II era fueled this remarkable growth: increased attention of both the federal and state governments to higher education and increased identification of a college degree as the primary means to achieving success. The federal government focused its attention on both student access and the nation's research needs. This attention combined with that of state governments to both student access and what we term "research prestige." Further, the desire among students and parents to advance socially and economically provided even more fuel for the growth of higher education. Nevertheless, we do not articulate the government and student issues as simple matters of growth. Equally, perhaps more, important, is which institutions, which students, and which faculty members benefited most from these changes. In many ways all institutions and participants benefited, but we identify some very important ways in which postwar US higher education sustained distinct social and economic relations.

Higher Education in the Mid to Late 1940s: Visions of Access and Research

Two landmark reports appeared in the mid to late 1940s that were instrumental in defining at least four subsequent decades of higher education in the United States. The first was *Science, The Endless Frontier* (1945), written by Vannevar Bush, science advisor to President Franklin Delano Roosevelt. Bush wrote in response to the President's request for a report on the current status of scientific and medical research in the United States that would provide a recommendation for future government and private support of such research. Bush offered a brief but thorough description of the variety of research activities underway in the mid-1940s, and concluded with a recommendation to establish what he called a National Research Foundation; his idea eventually came into law as the National Science Foundation in 1950. This foundation would promote basic research—knowledge sought for

its own ends without attention to practical outcomes—to develop scientific talent and support military research. Bush emphasized the importance of long-term, stable funding to effect such progress.

During World War II, there had been many remarkable achievements in scientific and technological work, such as the atomic bomb, which was based on the development of nuclear fission, a process developed at the University of Chicago during the war (Dzuback, 1991). Yet as a number of scholars (Freeland, 1992; Geiger, 1986, 1993; Graham & Diamond, 1997) have pointed out, a very small number of institutions dominated both research and scholarly work, as well as research prestige, in the United States in the late 1940s and 1950s. While estimates vary, it is safe to assume that about 20 universities received nearly 80% of federal monies for research; those institutions also dominated the funding received from private industry and foundations (Lowen, 1997), an amount often much larger than federal funding prior to and during World War II. This dominance continued into the early 1960s.

The second landmark report came a year after Vannevar Bush's book, following President Harry Truman's creation of the President's Commission on Higher Education, the first federal commission solely focused on higher education. The Commission met for over a year and its report, submitted in part to President Truman in December 1947 with subsequent volumes in early 1948, was entitled *Higher Education for American Democracy*. The report was an enthusiastic assessment of the potential for US higher education to enrich the nation and the world with the virtues of democracy, in sharp contrast to the threats to human welfare and security posed by totalitarian regimes such as the Third Reich. The Commission also argued that education for democracy would ensure that humanity's capacity to develop such frightening weapons as the atomic bomb would be accompanied by a similar growth in understanding the importance of peace and respect for other human beings. The Commission proposed widespread expansion of access to higher education, through both the establishment of more institutions, especially community colleges (a term it did not invent but most certainly popularized), and a huge federal financial aid program. One of its stated national goals was mass higher education, calling for as much as 49% of all high school graduates to be enrolled in some level of higher education. Scholars (Breneman & Finn, 1978; Gladieux & Wolanin, 1972) examining the subsequent growth in federal support of higher education, especially the 1965 Higher Education Act which authorized \$1.2 billion for federal support of higher education and financial aid (the 1965 Elementary and Secondary Education Act authorized 1 billion dollars) identify the 1947 Commission report as instrumental in setting the foundation for such support.

Just as *Science, The Endless Frontier* and *Higher Education for American Democracy* informed federal and state policymakers, a new piece of federal legislation was affecting the thinking of both government and institutional policymakers. The G.I. Bill of Rights (formally known as the Servicemen's Readjustment Act) passed in 1944 in order to provide veterans with direct benefits for their service and also served to place them in higher education instead of the unemployment line. The Act quickly resulted in a nearly overwhelming number of veterans enrolling in college (Olson, 1974). The immediate public image was one of adult men and,

to some degree, women, living in over-crowded spaces such as college gymnasiums and Quonset huts, which were literally half-cylinders of aluminum. The more enduring image was that of the success of the non-traditional college student—the older, far more experienced, and more focused veteran—outperforming the younger, more social, traditional college student (Clark, 1998; Olson, 1974). While research would eventually show that a large majority of the veterans had either attended college prior to entering the Armed Services or came from that group likely to attend college once they were old enough (Serow, 2004), the G.I. Bill had the remarkable effect of creating a widespread and long-term symbol of the importance of broad access to college (Greenberg, 1997; Mosch, 1975), particularly but not exclusively for White men of lesser economic means. Certainly, the huge enrollment growth provided testimony to the desire of veterans to earn a college degree, as approximately 7.8 million veterans took advantage of G.I. Bill benefits, although the growth occurred almost completely between 1944 and 1950. The benefits were generous for both students and institutions, offering important financial incentives to veteran enrollment.

Women, especially White women, faced new possibilities at the end of World War II. The nation's wartime rush to employ women in both industry and in white-collar positions even today is seen in the portrayals of Rosie the Riveter, flexing her bicep in support of the nation's need to win the war. College women also found a new place; despite decades of being on campuses, they had faced exclusion in academic and social matters, except to some degree at women's colleges (Horowitz, 1987; Newcomer, 1959). Their new place, however, was largely through their efforts to create spaces rather than expansion of opportunities promoted by men. Eisenmann (2006) offers a revision of previous historical research on women and higher education in the United States (Fass, 1989; Solomon, 1985), arguing that in terms of the number of women students, generally on the increase during the 1950s and equally if not more important, their career interests and programmatic efforts, they were able to set a foundation for events in the 1960s and after. Especially important, according to Eisenmann, were the institution-building activities of women in the academy. In regard to enrollment shifts, from 1951—near the end of the surge of the mostly male veteran enrollment—to 1961, the percentage of women enrolled at colleges and universities increased from 33.8 to 37.6% (Digest of Educational Statistics, 2009). Despite the widespread notions of the woman as family homemaker in the 1950s (Friedan, 1963), such norms did not result in decreases in women's college attendance. Gender is, however, more than a question of numbers (Dzuback, 2003), given that institutions of higher education create knowledge within gendered contexts, and we will return to that key issue in discussion of the women's movement and women's studies, as well as the role of different institutions of higher education in educating women for different purposes.

The color line, however, remained relatively unbroken from the late 1940s to the mid-1960s. Black colleges continued to enroll the largest proportion of Black students (Gasman, 2007a; Fleming, 1984), and they continued to employ the largest proportion of Black professors (Anderson, 1993; Gasman, 2007a) and Black administrators, when they were not hiring White administrators (Urban, 1992). As Willie

and Edmonds (1978) and other scholars (Drewry & Doermann, 2001; Noble, 1987/1956; Roebuck & Murtry, 1993) have argued, for generations Black colleges provided a place for Black students to experience a supportive community and academic challenge free of racism. However, these schools were hardly quiet sanctuaries, even in the 1950s, as the institutions served as places for fighting for civil rights, despite powerful and at times punitive measures by politicians (Williamson, 2008).

One symbol of the shifting expectations for higher education, especially in terms of equality of opportunity, was the foundation of the State University of New York (SUNY) in 1948. Born in great part through the efforts of Governor Thomas Dewey (planning to run as the Republican nominee for the presidency of the United States and keenly aware that New York was the only state without a state university system), SUNY's individual institutions were for the most part 4-year colleges, and the decided emphasis on the creation of the system was, indeed, to provide access to higher education (Clark, Leslie, & O'Brien, 2010; Gelber, 2001).

Hence, certain types of institutions offered access to certain groups, and while there were coeducational and integrated institutions of higher education, the degree of coeducation and integration was often limited either in terms of numbers or participation. The bastions of the elite, in particular the Ivy League and Little Ivies, remained for the most part all-male and overwhelmingly White well into the late 1960s and early 1970s. For example, as Karabel (2005) notes, Harvard, Yale, and Princeton Universities' enrollments had less than 1% of Black students, and all three remained all-male.

Not only who enters higher education at what institutions but also what they learn in the classroom conveys an important historical lesson. The President's Commission on Higher Education (1948) offered extensive discussion on the need for general education, that is, a shared education for all college and university students. The Harvard faculty also examined the issue of general education, issuing in 1945 a report commonly known as the Harvard Red Book (Harvard Committee, 1945), which addressed the importance of balancing general education with electives—a longstanding issue in US higher education. Despite the earnest arguments in both cases, colleges and universities tended over the next four decades to tinker with degree requirements rather than institute substantial changes (Hutcheson, 1996b; Rudolph, 1977). As two reviewers of a documentary history of higher education in the post-World War II era note with some irony, the Harvard Red Book is more often cited than read, and it had little impact on the Harvard undergraduate curriculum (Thelin & Miller, 2008).

The Uses of Higher Education in the 1950s: Sustaining the Elites, Meeting National Needs

Goldman (1971) called the period from 1945 to 1960 “the crucial decade and after” in the United States, with such developments as the 1954 and 1955 *Brown v. the Board of Education* decisions and the launch of an orbital satellite by the Soviet

Union serving as impetus for major changes for the United States. To some extent, those events and the 1950s in general were also crucial to changes among colleges and universities. At the same time, some important characteristics remained in place for higher education.

An intricate challenge for prestigious institutions, most of which were private in the early 1950s, was the issue of institutional funding in terms of both general support and student financial aid. In 1949, the Rockefeller and Carnegie Foundations established the Commission on Financing Higher Education, and the Commission was jointly sponsored by the exclusive Association of American Universities (Hutcheson, 2003). One author for the Commission (Axt, 1952) argued that federal financial aid for students would help private colleges and universities overcome their substantial financial challenges; an equally important solution suggested by another Commission author (Millett, 1952) would be an increase in private donations to colleges and universities. Such an approach apparently also applied to Black colleges, who benefited from the establishment of the United Negro College Fund in 1944, which quickly raised large amounts of money (Gasman, 2007a). In a very real sense, the financial challenges for higher education, well documented by Rudolph (1962) for the period from the colonial era to the 1950s, remained serious.

Expansion of enrollments, occurring across higher education in the 1950s, represented an element of change. Elite institutions were interested in expanding their enrollment bases—i.e., the number of applicants—while achieving a central goal of maintaining their prestige by increasing their selectivity. In part this interest derived from a Jeffersonian notion of talent to be found within a democracy. Thomas Jefferson had suggested that in a democracy one could rake the rubbish to find talent (Urban & Wagoner, 2009), and Harvard University President James B. Conant (1952) used those very arguments in the 1950s. One consequence was the establishment of the Educational Testing Service (ETS) and expansion of elite recruitment beyond prep schools. The College Entrance Examination Board (College Board), which was instrumental in the establishment of ETS, had long provided colleges and universities (especially elite ones which had been the key to its establishment), with standardized testing for admission of students (Leslie, 1992). In addition, the American Council on Education developed an extensive set of tests for a range of assessments such as career choice and secondary school completion—the General Equivalency Diploma, or GED. ETS was born when the American Council on Education and the College Entrance Examination Board engaged in extensive discussions to establish a new organization providing an umbrella of testing services to US higher education (Lemann, 1999).

Although elite colleges and universities had long provided scholarships, enabling to some degree the enrollment of students of lesser means, by the early 1950s they recognized the need for standardizing financial aid review (Wilkinson, 2005). In 1954, the College Board established the College Scholarship Service, which provided a standard means for evaluating how much a student and family could contribute to the cost of college. A year later, the College Board established the National Merit Scholarship Corporation, which provided companies and corporations with a central organization which could accept their scholarship donations and

select recipients based on their performance on a specific test, the National Merit Scholarship Qualifying Test (Wilkinson, 2005), an examination that would eventually become part of the Preliminary Scholastic Aptitude Test, the PSAT (Lemann, 1999).

Concerns about patriotism marred higher education in the late 1940s and the 1950s. Following the Chinese Communist successes in China, with the Communists achieving complete control of that country by 1948, along with the Soviet Union's successful theft of the secrets to construct the atomic bomb and the North Korean invasion of South Korea in 1950, many in the United States feared the threat of worldwide Communism. That fear fueled what would become known as McCarthyism, named after Senator Joseph P. McCarthy, a Republican senator from Wisconsin. In February 1950, at a speech in Wheeling, West Virginia, Senator McCarthy claimed that he had the names of about 150 Communists working for the federal government. Later he claimed that the number was over 180. At the federal, state, and local levels, elected officials and private groups such as the American Legion attempted to identify and remove Communists. Indeed, concern about the threat of Communism was not simply a matter for political conservatives; liberals on the national scene, such as John F. Kennedy, and in the professoriate, such as Richard Hofstadter, were suspicious of Communists and Communist affiliations (Hutcheson, 1997). Although the two earliest cases of removal of professors occurred at the University of Washington in 1949 (Sanders, 1979) and the University of California in 1950 (Stewart, 1950)—prior to Senator McCarthy's meteoric rise to national prominence—suspicion about professors as Communists rapidly became a national issue after McCarthy made his claims about federal government employees.

While the number of faculty members actually removed from their positions because of Communist affiliation was small, perhaps just over 100 according to one deftly researched analysis (Schrecker, 1986), far more important was the chilling effect on faculty members. As Lazarsfeld and Thielens (1958) showed in their comprehensive analysis, a state of apprehension was commonplace among social science professors during McCarthyism. Institutional affiliations with federal intelligence agencies, including at institutions often identified as supporting academic freedom during McCarthyism, such as Harvard University, also created problematic conditions (Diamond, 1992).

Identification as a Communist was at once almost impossible to prove and yet all too easy to suggest; a common question at hearings to determine an individual's status was, "Are you now or have you ever been a member of the Communist Party?" During the 1930s, when the Great Depression made clear the weaknesses of capitalism—unemployment at times hitting 20% of the nation's population, a number likely woefully underestimating the figure among poor rural people, such as Blacks and Whites in the South (Urban & Wagoner, 2009)—many intellectuals had experimented with joining the Communist Party of the United States of America. The non-invasion pact between the Soviet Union and Nazi Germany at the start of World War II, however, caused many of those same intellectuals to withdraw from Communist Party membership (Schrecker, 1986). Nevertheless, under oath, it appeared that they supported the Communist Party, although having done so at a

time when neither the Communist Parties of China nor the Soviet Union conveyed the same threat that they presented in the early 1950s.

The American Association of University Professors (AAUP), which found itself unexpectedly a defender of academic freedom shortly after its establishment in 1915 (Dewey, 1915), failed to investigate multiple cases of academic freedom violations, mostly because both its General Secretary and the head of the committee assigned to academic freedom issues (Committee A on Academic Freedom and Tenure; see American Association of University Professors, 2010) were, not surprisingly but not necessarily defensibly, apprehensive about negative consequences (Schrecker, 1986). Both the AAUP (1956) and the Association of American Universities (1953) issued statements assessing the threat of Communism among professors, and both concluded, the latter more strongly than the former, that professors who were Communists were unfit to teach. While the attacks brought about a range of responses from academics, in support of anti-Communist stances (Hook, 1949) and in support of academic freedom (MacIver, 1955), individual institutions used a variety of means to dismiss suspect faculty members (Holmes, 1989; Lewis, 1993).

Despite the obvious patriotic fervor, it would be an error, however, to assign these attacks on faculty members completely to issues of anti-Communism. All too often, concerns about gender, race, and ethnicity were powerful undercurrents. For example, in *This Nest of Vipers* (1989), McCormick shows how a female professor of art from New York City at a West Virginia public college faced unrelenting attacks from local organizations. She was different in too many ways, and among the accusations were those regarding her sexual behavior; she eventually was fired from the college. Williamson (2004, 2008) shows how Black college presidents in Mississippi faced charges of being Communists as a means to thwart their potential desegregationist arguments or activity, and Gasman (1999) provides a similar analysis of the challenges of academic freedom for the president of Fisk University. Finally, although not yet thoroughly investigated, gay and lesbian professors often faced scrutiny under the cover of anti-Communist concerns. Good examples of recent work in this area are Graves' (2009) work on Florida teachers, which includes some discussion of college and university professors, and Weiler's (2007) study of a faculty member at the University of California, Berkeley. Being different was not solely a matter of political affiliation; normative assumptions about gender, race and ethnicity, and sexual identity undergirded many of the investigations of suspicious individuals, anti-American perhaps not because of their political interests but because of who they were—apparent challenges to the status quo of White middle-class America.

McCarthyism waned after 1954 when Senator McCarthy was disgraced during testimony while investigating, curiously, possible Communist interests in the US Army. Challenged by a single witness, McCarthy was unable to defend his actions—he never revealed the names of those original 151 or 186 suspected Communists, much less proving any other claims he had about Communists—and a short time later was censured by the US Senate, a highly unusual sanction (Hutcheson, 1997).

Nevertheless, the fear of Communists continued in the 1950s. A single technological and scientific success in the Soviet Union reinvigorated concerns about patriotism, when in October 1957 the Soviet Union launched a satellite (named

Sputnik) into orbit, the first successful launch of an orbiting satellite. Across the nation people listened to the beep of the satellite on their radios, aware that at least for now the Communists controlled outer space. The US Congress and President Eisenhower responded with alacrity, and within a year had passed and signed into law the National Defense Education Act (NDEA) of 1958. Institutions of higher education were now in position to make their arguments for federal support of higher education, represented by associations in Washington, DC, that were established by the early 1950s as representatives of colleges and universities as well as the national interest (Graham, 1984; Hawkins, 1992).

The impact of Sputnik ought not to be underestimated; the successful launch of that satellite caused a change of heart among many politicians at the federal level. In 1956, President Eisenhower had appointed a committee on education beyond the high school, and the committee's brief initial report (President's Committee on Education Beyond the High School, 1956), prior to the launch of Sputnik and in contrast to the arguments of the 1947 President's Commission on Higher Education, called for considerable restraint in regard to federal support of higher education; it did not especially address research issues as it was focused on enrollment. The committee's second report, issued after the launch of Sputnik, did, however, give direct support to the idea of federal financial aid (President's Committee on Education Beyond the High School, 1957). President Eisenhower, who as a moderate Republican had been opposed to federal aid to higher education, changed his mind about this issue, as did many members of Congress (Thelin, 2004). The National Defense Education Act (NDEA) opened the discussion of federal financial aid based on national security needs, an argument advanced by the 1947 President's Commission. That argument was very important because it justified such aid without violating the 10th Amendment of the Constitution, which assigned matters of education to the states, since the funds were for a clear federal need: national defense.

The NDEA reflected the arguments offered in *Science, The Endless Frontier*. As Graham and Diamond (1997) argue, for several years after passage of the NDEA, universities experienced a remarkable growth of research funding, as funding expanded into institutions with previous little background in that area, especially among universities in the South. Furthermore, they note that the federal government focused on supporting basic research at universities, providing, for example, fellowships for graduate students in science and engineering. Other programs, however, also received NDEA support, including study in languages such as Chinese and Russian, as well as teacher education. In the case of the latter, as Wilkinson (2005) notes, college graduates who taught in public schools received loan forgiveness based on the number of years that they taught, even allowing them to end payments on their federally funded loans.

The federal support came with a condition. Just as one of the earliest academic freedom cases in the post-World War II era had occurred because the Board of Regents of the University of California required all faculty members to sign a loyalty oath (Stewart, 1950), so, too, the National Defense Education Act required a disclaimer affidavit from its recipients, stating that they did not belong to any

organization advocating the overthrow of the government. This time, however, there was more opposition, both by individual institutions, where in many cases both the president and the faculty declared their opposition to the oath, as well as by the AAUP. In part as a result of the AAUP activities, the US Congress passed an amended version of the National Defense Education Act which removed the affidavit requirement, although Congress replaced the affidavit with an oath of loyalty to the United States (Hutcheson, 2000). Clearly, then, the federal government was willing to provide money to support higher education, but only under the condition that recipients would not act contrary to the presumed political interest of the nation.

Access and Expansion in the 1960s

The 1948 establishment of the State University of New York provided a historical benchmark for the issue of equality of opportunity in the early post-World War II era. In the 1960s, other similar benchmarks occurred through changes in another significant public university system—the University of California—and through the creation of a new set of urban state universities. Cleveland State University, for example, was founded in 1965 when Governor James Rhodes purchased the private Fenn College because there was no state university in Ohio's largest city (Earnest, 1974).

In the case of California's public university system, the 1960 California Master Plan called for clear stratification of higher education in terms of access and research (Douglass, 2000). The Master Plan set out three tiers of institutions of higher education: community colleges provided a base of access; California State Colleges provided a 4-year education (and at some institutions, master's degrees); and the University of California schools, such as the University of California, Berkeley, focused on high selectivity in admission and on high-quality research and scholarship, representing a wide range of institutional activities seemingly at the center of the nation's needs (Kerr, 1963). However, the issue of access was problematic, as Clark (1960) argued in his hallmark article on the open-door college, a study of a California 2-year college where counselors often subtly moved students away from transfer expectations and courses into vocational curricula through a process Clark called "cooling out."

While state governments struggled with how to organize higher education, the federal government continued an uneven acceptance of its need to support colleges and universities. Despite the restrictions on definitions of loyalty inherent in loyalty oaths, the federal government in other ways was becoming much more supportive of higher education. Although no proposals to provide general federal financial aid to undergraduates had succeeded in the 1950s or early 1960s, the Congress in 1963 did pass a bill to support facilities construction on college and university campuses (Graham, 1984). The bill helped with one major controversy that for decades had plagued the issue of federal support for higher education, especially private higher education: the matter of religious affiliation. The Roman Catholic Church was skeptical of taking federal funds with the possible resulting federal control,

as were conservative Protestant denominations (many of which were Southern and suspicious of federal control in regard to desegregation). The 1963 bill, the College Facilities Act (PL-8204), provided loans to colleges and universities to construct buildings, but only in the carefully identified areas of science, engineering, and libraries.

General federal financial aid for undergraduates, without restrictions for such nationally valued categories as veteran status or graduate support in the sciences, finally became a reality in 1965 with the passage of the 1965 Higher Education Act. President Lyndon Baines Johnson, a former teacher, was personally committed through his War on Poverty to the expansion of opportunity for students to attend colleges and universities, a stance shared by many Democrats and some Republicans in Congress, and he recognized that both scholarships and loans were key elements in that expansion. Title IV of the Act provided both, first through Educational Opportunity Grants (funds given directly to institutions of higher education to provide assistance to needy students) and second through guaranteed student loans for middle-class students (Graham, 1984; Wilkinson, 2005).

Nevertheless, concern remained at the federal level about the efficacy and equity of scholarships distributed through colleges and universities rather than provided directly to students. A 1969 report from the Department of Health, Education and Welfare championed direct aid to students (Wilkinson, 2005). The 1972 re-authorization of the 1965 Higher Education Act established such grants, initially called Basic Educational Opportunity Grants and later named Pell grants. The Pell grants were named after Senator Claiborne Pell (Rhode Island) who had been the key figure in developing the program; these grants were need-based, that is, related to the student's and family's ability to contribute to the cost of college. As a result of the 1972 re-authorization, colleges and universities continued to receive Educational Opportunity Grants, renamed Supplemental Educational Opportunity Grants. Despite the authorized generosity of the Basic Educational Opportunity Grant program, with individual maximum grants set at \$1,400, Congress and the President have never fully funded the program (Wilkinson, 2005).

Two-year colleges began to experience a number of important shifts in the 1960s. Despite the recommendations of the 1947 President's Commission that these colleges should grow, it was the 1960s, especially the late 1960s, when their establishment boomed; states, however, had begun planning for those institutions in the 1950s (Katsinas, 1994; Katsinas, Johnson, & Snider, 1999). While 2-year colleges had been relatively evenly divided between public and private control in the late 1940s, that ratio shifted substantially by 1969, from 57% public and 43% private to 72% public and 28% private. In the late 1960s, on average, a new public community college was founded every week. An early 1970s analysis suggested that 90% of the nation's population lived within 50 miles of a college and university, and the community college was a powerful force in that geographic access (Cohen & Brawer, 2008). State legislators could start such an institution with far less funding than a 4-year institution, and were thus able to tell constituents that they now had a college in town, or at least in the area. Many of those same legislators were persuaded to found or fund urban state universities with similar motivations (Earnest, 1974).

Enrollment data from the beginning of the century to the 1960s are instructive in examining increased access to higher education. In 1900, about 4% of college-age Americans were attending an institution of higher learning. By 1950, 16.5% of eligible students were attending college (Walters, 1960). In the 25 years following the end of World War II, the proportion of young Americans attending college rose from about 12% to about 32% (Freeland, 1992). During the 1960s, particularly the latter part of the decade, much of the accelerating enrollment growth occurred among public institutions at all degree levels. In 1947, 49% of the 2.3 million students in higher education were enrolled at public institutions; by 1969, 74% of the 8 million college and university students were in the public sector (Digest of Educational Statistics, 2009).

While the number of college students was increasing at a remarkable rate, the number of professors also increased, although not at the growth rate of enrollment. In 1949, there were almost 250,000 professors, a number which increased to just over a million by 1999. In partial contrast, the number of collegiate administrators increased at a much faster rate. Although 1940s data are not available, even data from the late 1960s to the early 1990s are telling. In 1967–1968, just over 10% of all higher education employees were administrative and executive staff members (The Education Professions, 1969); by 1993, almost 22% of all employees were administrators or executives (Digest of Educational Statistics, 1996). Administrative growth had many causes, not the least of which was the burgeoning field of student personnel or student affairs. Historical research about the field—in decided contrast to assumptions (Nuss, 2003) about its history—makes clear that its rise from the early 1900s through the 1960s was not the result of faculty turning to research and scholarship at the expense of student life. In many cases, early deans of women and men were either faculty members appointed to be deans or they were active as instructors and held joint appointments as faculty members and administrators (Bashaw, 1999; Nidiffer, 2000; Schwartz, 1997a, 1997b, 2003). As Schetlin (1969) argues, the myth of the research-oriented professor ignoring the growth of the total student likely exacerbated the division between professors and student personnel administrators.

With growth and funding so prominent in the 1960s, the decade appeared to be a heady time, indeed. Colleges and universities occupied a central position in national life, with unprecedented amounts of federal support for research and students, and with the states opening new institutions and expanding existing ones at unprecedeted levels. A book first published in 1968 and then issued in a second edition (1969), *The Academic Revolution*, symbolizes the enthusiasm of the time, as well as its underlying weakness. Jencks and Riesman attempted in their book a massive overview of higher education in the United States, displaying special affection for research universities and for those colleges that supported research universities by sending large proportions of their graduates to graduate school (they named that group “university colleges”). The authors also concluded that, by and large, faculty members had achieved a dominant place in the governance and practice of many institutions of higher education—an error of judgment which Riesman acknowledged in 1980 (*On Higher Education*). Their celebration of elite

institutions, however, came at the cost of attention to or support for women's colleges, Black colleges, and Catholic colleges (Gasman, 2006). They also ignored the rapidly growing urban state university sector of higher education.

Perhaps because the 1960s enrollment growth rate was so rapid, particularly for public colleges and universities, institutions of higher education experienced increasing bureaucratization, a process with multiple consequences. For instance, collective bargaining in higher education began in the early 1960s, and accelerated in the latter part of the decade as institutions of higher education more closely resembled bureaucracies, with increasingly distant relations between central academic administrators and the faculty. Although the degree of collegial governance claimed by some scholars in the 1950s and 1960s (Corson, 1960; Millett, 1968) may well have been exaggerated, nonetheless, the large scale of many institutions of higher education dampened any such form of governance.

Most of the early growth in faculty collective bargaining occurred at 2-year institutions (Garbarino & Aussieker, 1975; Kemerer & Baldridge, 1975). Historically, those institutions had strong ties to secondary schools, and the collective bargaining movement among schoolteachers—in those states that permitted public employee collective bargaining, such as the northeastern, midwestern, and western states—preceded the collective bargaining movement in higher education. Collective bargaining permits employees to organize as a unit for representation of their contractual interests; in some states all employees are required to join the union, and in others employees may choose. In either case, collective bargaining statutes typically compel the employer to negotiate with the union, although those negotiations do not necessarily result in an agreement. In some cases, employees—i.e., faculty members—can strike under conditions of state law, forcing the employer to negotiate; in other cases, employers and employees end up in an impasse and an arbitrator attempts to negotiate a final settlement for the contract. Finally, some states (most of which are in the South) allow collective bargaining but do not require employees to join the union or compel employers to recognize the union. Hence collective bargaining, including in higher education, tends to be very regional in its impact.

The first postsecondary institution whose faculty voted to approve collective bargaining was Milwaukee Technical Institute (which eventually became Milwaukee Area Technical College). That faculty was able to do so because the institution was part of the local school district. Under Wisconsin state law, school districts were subject to collective bargaining. Over the next few years, other college faculties approved collective bargaining, almost all of which were at public 2-year colleges. Collective bargaining at 4-year colleges began at public institutions. By the end of 1969, the American Federation of Teachers (AFT) represented 21 faculties at 2-year colleges, two at 4-year colleges, and the large faculties at all the 2-year and 4-year campuses at the City University of New York. The NEA experienced early successes at public 2-year colleges, and by the end of 1969 represented the faculties at Central Michigan University and the six New Jersey State College campuses (Hutcheson, 2000). The AFT and the NEA clearly recognized the opportunities for membership growth and representation of teachers' interests.

That latter condition marks a highly important reason for the growth of faculty collective bargaining. Although such issues as salaries, benefits, and bureaucratic relationships were often at the forefront of efforts to organize college and university faculties, equally if not more important were administrative attitudes and behaviors. In some regards, faculty unionization is a reminder that while the American Association of University Professors strove for decades to achieve recognition of professors as academic professionals, college and university administrators could all too easily assign faculty members to undesirable courses, cut their salaries, or dismiss them. Although the AAUP had investigated cases of violations of academic freedom and faculty dismissals since 1915, administrators could and did continue treating faculty members as employees. Thus, the AAUP struggled with that very tension throughout the late 1960s and early 1970s, initially opposing any form of faculty unionization but eventually, in 1972, approving conditional involvement in collective bargaining. By 1976, nearly one third of the nation's faculty members were represented by unions, as were the teaching assistants at the University of Wisconsin-Madison and the University of Michigan (Hutcheson, 2000).

The process of collective bargaining would slow, however, in part because so many faculties at public institutions had already voted for union representation. Even more so, in 1980 the US Supreme Court ruled that the faculty members at Yeshiva University had managerial responsibilities and, hence, were not employees eligible to organize for union representation. The Yeshiva decision resulted both in the decertification of almost all faculty unions at private colleges and universities and the halt of unionizing efforts at other private institutions of higher education (Lee, 1982). Benefits for faculty members represented by unions include not only salary—which may not always be substantially different at similar, non-unionized institutions—but also the power of the union to represent them when institutions attempt instructional reassessments or dismissal. However, one scholar (Rhoades, 1998) has also argued that the unionization movement has resulted in professors being managed, rather than semi-autonomous, professionals.

In addition to the decade's substantial shift toward public institutions and such consequences as collective bargaining, many private colleges and universities with strong ties to religious denominations experienced secularization. That process included changing requirements that faculty members belong to the institution's denomination, to loosening or removing requirements for courses on religion, to a broader recruitment of students regardless of their denominational backgrounds. Scholars initially described this as a deep trend (Jencks & Riesman, 1968); however, authors Marsden (1993) and Reuben (1996) argue that even at research universities, among the first institutions in the late 1800s and early 1900s to separate from their religious affiliations, Protestant themes remained strong. Nevertheless, the movement toward a more secular stance was a marked change, for example, among small private liberal arts colleges affiliated with Protestant denominations, as well as at Catholic colleges and universities (Astin & Lee, 1972). While Catholic institutions faced challenges in terms of student demand for a more ecclesiastical setting, they also faced a declining number of priests and nuns, both of which had long provided

them with faculty members educated in the Catholic tradition and able to work at much lower salaries (Power, 1972).

In another area, 1960s colleges and universities experienced a level of vibrancy perhaps unmatched at any other time: student activism. While the 1930s was a time when many students protested national and international events (Altbach, 1997; Lipset, 1976; Norwood, 2009), during the 1960s—and actually, from the late 1950s to the early 1970s—many college and university students went beyond the traditional involvement of on-campus social and academic activities. To some degree, the later protests against McCarthyism and investigations of un-American activities among professors and students, conducted at the national level by the House Un-American Activities Committee, represented student resistance to the status quo. A more powerful indicator in the late 1950s, however, was student resistance to segregation in both the North and the South.

In February 1960, four Black college students enrolled at North Carolina Agricultural and Technical College sat at a Whites-only lunch counter in a local store. The students endured racist insults and physical abuse, such as Whites dumping food and beverages on them. Despite the abuse they refused to leave, and that sit-in, the very sort of civil disobedience that Gandhi and Thoreau had espoused, led to widespread sit-ins at segregated businesses. Throughout the spring and summer of 1961, Black and White students, many of them from Northern colleges and universities, rode into the Deep South on interstate buses, the subject of recent court rulings outlawing segregated interstate public transportation (Arsenault, 2006). These “freedom riders” were often taken out of the buses and beaten, and White racist protestors burned many buses, as well as occupying bus stations where they would abuse the riders both verbally and physically.

The fight for civil rights occurred throughout the South, and the Student Nonviolent Coordinating Committee (SNCC), founded in 1960 in North Carolina and eventually headquartered in Atlanta, Georgia, was a powerful organization in assisting students and developing campaigns not only in the South but also in Northern cities to combat racism and fight for civil rights (Carson, 1981). SNCC became an increasingly radical organization during the 1960s, in many ways symbolizing the rise of the Black Power movement beyond college and university campuses. As nonviolent means were met with brutality, and young Black and White students were beaten and even murdered, some civil rights advocates sought more direct ways of confronting the laws and norms of racism. One startling representation occurred at Cornell University in 1969, when Black students appeared with weapons on the steps of the student union, following a takeover of that building in protest of racism on campus (Downs, 1999).

Just as some Civil Rights Movement activists experienced verbal and physical abuse, so too did the courageous young Black men and women who sought to desegregate Southern universities, especially those schools at the pinnacle of state systems, such as the University of Georgia (Dyer, 1985), the University of Alabama (Clark, 1993), and the University of Mississippi (Sansing, 1990). Furthermore, once Black students entered previously segregated institutions of higher education, they had to face racism and discrimination; desegregation was not simply the act of

crossing the schoolhouse door (Wallenstein, 2008). Hunter-Gault's autobiography (1992) provides not simply the institutional details of an individual student's efforts, but more fully offers a sense of how she dealt with her academic and emotional wellbeing. She describes her early college experience at Wayne State University in Detroit, Michigan; Southern states had grant programs to send Black undergraduates to Northern, integrated institutions of higher education, an experience in full contrast to mobs of White students at the University of Georgia demonstrating outside her dormitory room. Hunter-Gault also describes Hamilton Holmes, who entered the University of Georgia at the same time as she, in the spring of 1963, and who evidenced a quiet yet grim determination to succeed.

Not all desegregation attempts were met with such passion, and in at least one instance, the Roman Catholic Church proved to be supportive of desegregation (Padgett, 2001); however, the overall pattern was one of White resistance, if not violence. Hence, while enrollment patterns changed from the 1940s to the 1960s, with considerably larger numbers of Blacks in college (Kim & Rury, 2007), institutions and politicians employed diverse tactics to keep those Black students at Black institutions—schools that they often deliberately underfunded (Johnson, Cobb-Roberts, & Shircliffe, 2007). Without diminishing the strong forms of racism that Black students, professors, and administrators encountered, the drive for admission and a place on campus on the part of many races and ethnicities has characterized the history of higher education. At the same time, so, too, has White Protestant resistance (Wechsler, 2009).

Resistance to segregation and racism occurred not only at large public institutions; small colleges, such as Spelman College in Atlanta, experienced such student activism as well. Spelman, a college for Black women, served as an informal headquarters for Black female students working in such organizations as SNCC, although not always with the approval of the College's administrators (Lefever, 2005).

Over a thousand miles away from the Deep South and the protests against segregation, another form of student protest was developing at the University of California, Berkeley. An early sign of student activism among White students occurred in 1962, when students gathered in Michigan and wrote a document, the Port Huron Statement, urging students to engage in participatory democracy (Lipset, 1976). Similar sentiments were developing among students at the University of California, Berkeley, where the University administration, led by Clark Kerr, initiated a variety of measures to restrict the activities of liberal and left-wing student political groups (Altbach, 1997; Lipset, 1976). As a result, not only those students but also other political and social groups formed a loose coalition, known as the Free Speech Movement. Its principal spokesperson was Mario Savio, and he and other students negotiated with the California administration until they reached agreement on the right of students to exercise free speech, including on political matters.

The anti-war movement caused substantial disruption on campuses across the nation, although often the largest and most violent demonstrations occurred at state flagship universities such as the University of California, Berkeley, and the University of Wisconsin, Madison, or at prestigious private universities such as

Columbia University, where a demonstration in May, 1968, attracted substantial national media attention (Altbach, 1997; Lipset, 1976; Wechsler, 2009).

To some degree, the feminist movement of the late 1960s drew upon the traditions of nonviolent protest from the 1800s (Lerner, 1997), captured by the arguments in *The Feminine Mystique*, a powerful book by Friedan (1963). As in Friedan's book, the 1960s feminist movement initially drew heavily upon the experiences of White middle-class women; even there, the movement identified the importance of differences in the academy. The movement gathered momentum in the 1970s, and following the publication of arguments about moral development that simply focused on White men (Perry, 1968), Gilligan (1982) articulated arguments about moral judgment that clearly delineated reasoning, without an essentialist perspective, between men and women. In later years, feminists would become divided by their views on difference, including issues of race, ethnicity, and gender identity.

Distinct from the anti-war and feminist movements was the Black Power movement. For example, the events at Columbia University in 1968 began as a result of the University's decision to build a gymnasium in a park between the University and Harlem. Black students and White students had different goals; the Black students wanted to create solidarity with the Black community in Harlem, while the White student protestors wanted to radicalize their fellow students (Bradley, 2003; Wechsler, 2009). As Williamson (2003) argues, the Black Power movement on campuses was a means not simply for racial uplift but also for racial solidarity. The increasing number of Black students on campuses had not resulted in acceptance, and many Black students responded with increased support for the Black Power movement and increasing demands for the inclusion of Black studies in the curriculum.

Thus, the 1960s was what more than what one scholar (Freeland, 1992) terms the golden age of higher education when colleges and universities experienced massive enrollment growth and substantial increases in government support, including for research and scholarship. They also saw the growth of student activism, both through civil rights and free speech. The 1970s, however, rapidly brought about a new situation.

The 1970s: From Protest to the Rise of Markets

In many ways, the student protest era ended on May 4, 1970, although the protests themselves continued for a few years afterward (Levine & Wilson, 1979). On that date, members of the Ohio National Guard, attempting to halt an anti-Vietnam war demonstration at Kent State University, opened fire on the protestors, killing four of them (Lipset, 1976). The heightened confrontations between students and authorities had reached a seemingly logical but nonetheless tragic conclusion.

Although the events at Kent State were highlighted throughout the national media, an equally painful set of events just a few days later at Jackson State University, Mississippi, went almost unnoticed. At that Black college on May 14, 1970, local and state police opened fire on Black students who, following an

anti-Vietnam war protest, had retreated to a dormitory, killing two and wounding 12. Sadly, the scholarship on higher education has barely caught up to this event, with one good discussion appearing on Wikipedia (Jackson State killings, 2010)—hardly a source for historians of higher education. There is some discussion of this tragedy in journal articles (Horowitz, 1986; Williamson, 2004); one book, in part, addresses the events (Sansing, 1990) and another examines the events in full but leaves questions unanswered (Spofford, 1988). Yet all of that discussion remains in stark contrast to a book on the Kent State killings written by a prominent novelist (Michener, 1971) and the considerable visual and textual images of the Kent State events. In like manner, another incident involving the killing of three Black student protestors occurred in 1968 in Orangeburg, South Carolina, an event rarely discussed in student protest histories, although there is one book on those events (Bass & Nelson, 1984).

Protest crises, recognized or otherwise, were not the only problem facing higher education in this period. The nation experienced a financial crisis in the early 1970s, leading to extensive retrenchment in higher education. The oil crisis of 1974 and 1975, when the newly powerful OPEC oil cartel composed of many of the major oil-producing countries effectively controlled the production and pricing of the world's oil, led to a reduction in both the amount of oil and increased oil prices. Long lines of cars, with drivers impatiently waiting to fill their gas tanks, were commonplace in 1975 throughout the nation, and many states enacted such laws as even-odd days, with the last number of a car's license plate designating whether the driver could fill the gas tank on a certain day. As of yet, no one has written about the serious and sustained impact that the oil crisis had on college and university operations (Hutcheson, in press). Yet, it is essential to remember that most of the older colleges and universities also had responsibility for upkeep of older buildings. Not surprisingly, at a time when a gallon of gasoline cost 25 cents or less, colleges and universities paid little attention to such matters as weatherproofing, even for newer buildings; the oil crisis pushed many college and university administrators into crisis management, meeting often to discuss how to diminish rapidly rising energy costs and, in general, how to cut such costs (Cheit, 1973).

In addition, during the 1970s there was a widespread loss of faith in higher education as a public good. In part, this reaction resulted from the student protests, as many taxpayers and elected officials wondered aloud why college students were wasting taxpayer money in violent protests that resulted in the destruction of public property, seeing this as clear evidence that college students were not focusing on their tax-supported education (President's Commission on Campus Unrest, 1970; Thelin, 2004; Wilkinson, 2005).

The public also worried about the growing use of federal tax dollars to support research. Wisconsin Senator William Proxmire, elected in 1957 to replace Senator Joseph McCarthy, provides a telling example of that concern. Proxmire was a long-time advocate of careful oversight of federal expenditures, and he initiated the "Golden Fleece Award" to highlight waste in the use of federal dollars. For instance, he gave the award to a research project supported by the National Science Foundation that spent \$75,000 to investigate why people fall in love, along with

a project funded by the National Institute for Mental Health spending \$97,000 for research on activities at a Peruvian brothel, research which included multiple visits to the brothel itself (Proxmire, 1980).

Scholars and pundits spoke of the possibility of private college closures, perhaps in the hundreds. As Axtell acerbically noted in a 1971 article, the liberal arts had faced the threat of death for over a century. In the 1970s, there were far fewer closures than anticipated, strongly suggesting not only the capacity of such institutions to survive but also the subtle yet important ways in which they fill social needs, needs we discuss to some extent in the final two sections of this chapter.

Some colleges indeed closed, but not as many as feared. Enrollment pressures, along with changes in thinking about gender, pushed a large number of all-women's colleges and all-men's colleges to become coeducational. Doing so broadened their enrollments, yet, at least initially, created social challenges as college women and men began to interact in settings that had previously been the domain of one gender or the other (Miller-Bernal & Poulson, 2004).

As reported in the results of the Survey of American College Freshmen, students were voting with their feet in the 1970s, generally preferring career-oriented majors to the liberal arts (Riesman, 1980; Stadtman, 1980). Arguments about the reasons for such choices abounded, although most scholars agreed that college-bound students were now far more concerned about getting a job, preferably a good job, after college than they had been in the 1960s. Some scholars highlighted what they saw as the virtues of college students committed to social change, while others pointed to the increase of college enrollments and what one termed, the over-educated American (Freeman, 1976).

Enrollments at urban state universities and community colleges continued to climb throughout this period, reinforcing one change in the structure of enrollments. Their geographic accessibility allowed students to shift from full-time to part-time status. During the 1950s and 1960s, the percentage of part-time students remained relatively constant, at about 30% of all students, but from 1970 to 1979, the percentage of part-time students rose from just over 32–41%, a change explained in great part by the increase in enrollment at community colleges (Cohen & Brawer, 2008; Digest of Educational Statistics, 2009). Hence, access developed a more complicated meaning; not only demographic characteristics such as gender, race, or ethnicity were defining access. Whether or not a student could afford full-time enrollment was no longer as constraining a factor for access to higher education.

Protests Unanswered: Curricular Challenges

Although one feminist movement, from Friedan's work (1963) to the rise of a White middle-class women's feminism, had taken partial hold in the 1960s, there remained during the 1970s what two scholars adroitly assessed as the chilly climate (Hall & Sandler, 1982) for women. Bernice Sandler had, in fact, sued her employing institution, the University of Maryland, for sex discrimination under Title IX of the 1965 Higher Education Act, arguing that as a woman, she was subjected to unequal

treatment. In their subsequent scholarship, Hall and Sandler reported that, from discouragement in early schooling to silencing in the college classroom, women continued to experience unequal treatment in comparison to men.

Alongside those concerns, many institutions opened new departments and programs that addressed issues related to gender, racial, and ethnic identity. In what might roughly be termed area studies, colleges and universities opened programs in African-American, American-Indian, Latino/a, and Asian-American studies. Some of those issues had gained modest popularity in the late 1950s and 1960s, primarily due to concerns about national ignorance about other parts of the world (Hutcheson, 1996b; Rudolph, 1977). But in the 1970s, departments and programs went beyond disciplinary foci on areas of knowledge to examine how different groups experienced life in the United States, and often, in other countries. For example, the Black Power movement in the late 1960s led to the establishment of over 100 Black Studies programs, including at many prestigious colleges and universities, by the early 2000s (Rojas, 2007).

Teaching Loads, Research Opportunities

During the 1970s, faculty members faced an increasing emphasis on conducting research. In the early development of higher education—at least until the mid-1800s—the complete focus of US colleges was on instruction. During the late nineteenth century, some institutions, some slowly and some rapidly, moved toward an emphasis on research. Nevertheless, well into the post-World War II period, and as exemplified by the small band of universities receiving the bulk of federal research dollars, colleges and universities were primarily teaching institutions.

In 1958, 95% of all federal funds for university research and development (R&D) went to the top 100 institutions; by 1968, the top 100 schools (which included none of the urban state universities) still received 86% of federal research funds. In 1963, for example, \$830 million in federal R&D funds went to fewer than 500 of the 2,100 higher education institutions across the country, with the top 100 receiving 90% of total funding. Between 1958 and 1968, federal R&D funding increased from \$254 million to \$1.57 billion. The number of university researchers grew from 12,000 to 23,000 in private institutions and from 13,000 to 23,000 in public institutions. Concentration of research funds remained, although by 1968 federal assistance was provided to 92% of the nation's 2,734 colleges and universities mostly in the form of loans and grants to undergraduates (Graham & Diamond, 1997). Thus, although federal research money was spread more widely across institutions, the majority of US colleges and universities retained their focus on teaching in the 1960s.

Graham and Diamond (1997) suggest four factors that positioned American higher education for its rise to research prominence in the postwar era: “decentralization; pluralism, which enabled a prominent role for private institutions; a large, nationalized academic market united by common organizational form and professional standards; and consequently, competition between the campuses for students

and faculty" (p. 11). Whatever the causes, whether the close organizational field of American higher education or, as noted above, the influx of federal dollars and the drive of individuals like Vannevar Bush, the 25 years following World War II witnessed a sharp increase in the federal role in postsecondary education and an explosive growth in graduate programs and research.

The rise of a research ethos at 4-year institutions was heartily embraced by the urban state universities sector of American higher education during this period. This sector constitutes the urban equivalent of the land grant institutions founded in the late nineteenth century. It comprises a wide variety of normal schools, YMCA colleges, municipal institutions, extensions or branches of state universities (most of them land grants), and private colleges located in major urban centers that received legislative approval for state funding in the first two decades after World War II. While most of these institutions eventually evolved into doctoral research-level organizations in the postwar era, it is the variety of their founding types that is most interesting. The University of Memphis, for example, was founded as the West Tennessee State Normal School in 1909; the University of Missouri—Kansas City was chartered as a private university in 1929 and opened in 1933; the University of New Orleans was legally established by Act 60 of the 1956 Louisiana Legislature as Louisiana State University in New Orleans, a branch campus expansion of LSU; and Cleveland State University was formed when the State of Ohio purchased Fenn College, a 4-year private engineering, business and liberal arts co-operative college that itself was founded by the Cleveland YMCA (Kidder, 2008).

Despite the differences in their founding types and their widely divergent histories, however, all of these universities (and their counterparts in most other urban centers) have evolved into state-controlled, taxpayer-supported, largely doctoral-level higher education institutions irrespective of their different origins and evolutionary paths. By the 2000s, they have developed substantial graduate degree programs and many are important research centers in their communities. Wayne State University, for example, received \$145 million in sponsored research support in fiscal year 2006–2007 (www.spa.wayne.edu/docs/FACTS_SHEET.pdf) and its Venture Development Office has helped launch more than 20 technology-related companies (www.techtransfer.wayne.edu/entreinvestors/startups.asp). These universities have as their primary missions, however, the preparation of practitioners (rather than scholars and researchers, the primary focus of research universities) and engagement primarily in applied (rather than basic) research that addresses the complex issues of their surrounding communities (Carriere, 2008; Vichit-Vadachan, 2007).

The boon of federal research support in the 1960s, however, carried a curious consequence. While previously many of the recipients of the Ph.D. had not published—common folklore suggested that 80% of all doctorates did not publish—by the late 1960s universities were graduating not only more Ph.D.'s (Digest of Educational Statistics, 1990) but also more who had gone beyond a dissertation, ostensibly the result of rigorous research, and who had been funded to do additional research (Geiger, 1993; Graham & Diamond, 1997). In 1969, 5.1% of 2-year college professors, 38.6% of 4-year college professors, and 52.7% of university professors

held the doctorate. By 1989, the percentages had increased across higher education; 17.3% of community college professors, 60.3% of 4-year college professors, and 84.4% of university professors had earned a doctorate (Hutcheson, 2000).

Increasingly, institutions of higher education, especially 4-year colleges, emphasized research. Formal movement into the group of schools most focused on research, the Association of American Universities, remained quite difficult (Gulley, 2001). Nevertheless, expectations for publication increased across all levels of institutions. By 1989, even 46.7% of community college professors, those faculty members most committed to the teaching mission of higher education, had published at least one article; 73% of the 4-year college professors had done so. The percentage of published professors also jumped among university professors, from 70.5% in 1969 to 90.9% in 1989 (Hutcheson, 2000).

Dunham (1969) notes that the drive for prestige among state colleges and regional universities was evident by the late 1960s, a drive that included recognition for faculty research. As Finnegan (1993) finds, faculty members at public comprehensive universities throughout the 1970s and into the early 1980s experienced increasing expectations, from the administration and colleagues, to publish. Wayne State University, for example, which had introduced some graduate programs as early as 1930, substantially increased its financial assistance for research to both faculty and graduate students throughout the 1960s and 1970s. *Research: Wayne State University* (Dean, 1962), published in March 1962 and distributed to some 6,000 college and university deans and research directors, research directors in industry, various foundations and members of state and national government agencies, noted that the amount of sponsored research awarded to the University had increased from about \$500,000 in 1951 to more than \$3 million in 1961 and, further, that Wayne State's internal support for research in the form of faculty research fellowships and research grants-in-aid included about \$250,000 awarded to faculty in support of their research efforts in the prior 4 years (Kidder, 2006). At Cleveland State University, the new CSU Faculty Council, which was established as the primary faculty governance vehicle on January 11, 1967, included an agenda item announcing the appointment of an ad hoc committee on regulations for graduate study at its first meeting on February 3, 1967, only 18 months after CSU officially opened as the new state university in Cleveland. By the end of the 1966–1967 academic year, CSU had opened the conversation about scholarly productivity as a criterion for hiring and promotion (Kidder, 2006).

Games Colleges Play

One historian of education, Thelin, appropriately named his history of college sports, *Games Colleges Play* (1994). A spate of books about college, or more appropriately, university, investment in athletics appeared in the 1980s and 1990s (Brooks & Althouse, 1993; Byers & Hammer, 1995; Lawrence, 1987; Sperber, 1991; Zimbalist, 1999). At times in the post-World War II era, college administrators even hoped to improve race relations through athletics (Henderson, 1997), but over

the long term, Black athletes were used solely for the purpose of athletic success (Sack & Staurowsky, 1998). While on occasion a scholar would offer an apologia, if not a defense, for big-time college athletics (Toma, 2003), more often than not the examinations of Division I athletic competition, especially in regard to men's basketball and football, raised questions about how institutions of higher education treated college athletes and how those institutions pursued television contracts and media reporting regardless of the effects on student behavior and academic issues. In this arena, profits and boosters were remarkably powerful (Thelin, 1994). Business principles such as profit—revenue generation—entered more than the sports arenas for higher education.

The 1980s, the 1990s, and Market Assumptions: The Rise of Neoliberalism

Historians of higher education have not written much about the recent decades—not surprisingly, since historians often view events of the past 20 years as contemporary rather than historical. Hence, for consideration of the most recent history, we draw upon contemporary arguments, although beginning with a century-old caution. Veblen (1918) had warned higher education long ago that businessmen's conduct of colleges and universities would have serious consequences, and indeed by the 1980s, the face of higher education was changing. Strategic planning became increasingly popular among colleges and universities starting in the early 1980s (Keller, 1983), and regardless of whether that activity or others adopted from the business world actually fit higher education, accountability, marketing, market positioning, and planning became bywords on campuses across the nation (Best, 1988; Birnbaum, 2000). Also during the 1980s, colleges and universities pursued alliances with corporations, as they sought new funding following the Reagan administration's federal budget cuts for higher education (Slaughter, 1990).

Yet it was not simply fiscal conservatives, buoyed by the Reagan revolution, who advocated such changes toward a corporate view. During the 1990s, with institutions of higher education—especially research-oriented universities—continuing their search for external funding, professors faced increased pressure to become entrepreneurs (Slaughter & Leslie, 1997). Furthermore, these entrepreneurial opportunities were not simply fiscal issues; Slaughter (1994) examines how they were also gendered. Equally important, as Apple (2004) argues, neoliberals gained increasing influence in the 1990s, advancing their arguments that the state ought to create opportunities for corporate activities. Institutions of higher education were well-suited to such arguments given their capacity—in contrast to the arguments of the 1947 President's Commission on Higher Education for the advancement of democracy—to educate their students for their place in the global economy, thus ensuring national competitiveness.

One consequence of the movement toward business ideas about higher education were arguments about tenure, including whether it was being corroded (Hutcheson,

1996a), or whether it should be set aside (Chait, 1982). Scholars also commented on the increased use of part-time faculty members at all types of institutions (Gappa & Leslie, 1993; Sheeks & Hutcheson, 1998). Non-tenured faculty members, both full-time and part-time, are subject to at-will dismissal, reinforcing the possibilities of a business model for higher education. Another consequence, framed in terms of economic return for students, resulted in continued reductions of federal grants for college students and an increasing emphasis on the use of loans, based on the reasoning of private rate of return; that is, students benefited from their college education and, thus, needed to be the ones to pay for that education (Wilkinson, 2005).

Educating Whom, for What, and Where?

Who enters which markets is, however, much more than a consequence of earning a college degree, much less whether that degree is from a 2-year college or prestigious 4-year institution. World War II taught this nation that, in principle, colleges and universities served important, if not fundamental, national purposes. In terms of science, the endless frontier was best explored at universities, with their faculty members and laboratories providing the necessary resources for expanding knowledge. In terms of the democracy, colleges and universities were the best choice for providing equality of opportunity, informing the nation and the world of the advantages of a fully democratic society. The rise in numbers and types of institutions supported the growth of this belief.

Practice, however, often differs from principle. Two types of institutions, the 2-year college and the highly selective colleges and universities, provide clear if not unsettling arguments that equality of opportunity remains a contested terrain, where past victors often continue to carry their gains.

In the late 1940s, private 2-year colleges for women were, in comparison to today, a rather common institution. At the risk of over-simplifying, many were private junior colleges for Catholic women, and in the Northeast, many were private junior colleges for Protestant women. The two groups were different in one very real way. The former produced a large number of schoolteachers for Catholic schools (Catholic schools did not require state certification; for that matter, many states did not require a baccalaureate certification for elementary schoolteachers until the 1960s). The latter graduated women who went on to 2-year colleges. In both cases, the junior colleges also enrolled many women who would marry and likely not pursue careers (Hutcheson & Christie, 1999; Oates, 1987). In a very powerful sense, social norms ensured that women would follow expectations of their families and communities, often going into feminized occupations or into marriage.

These institutions by and large were gone from the higher education landscape by the late 1960s and early 1970s (Hutcheson & Christie, 1999). Yet it is dangerous to assume that the shaping of the lives of the women who attended those junior colleges had ended. The early 1970s was a time when community colleges provided open access (Wechsler, 1977), and there was a notable increase in the recognition of the

need for adult women to enter college. While enrollment numbers remain opaque, a literature on educating adults, and especially adult women, developed (Cross, 1976, 1981; Richardson & King, 1998). Community colleges, institutions with high levels of access in terms of geography, academic background, and part-time status, were appealing, and indeed they invited those students to enroll. Despite the access, the careers available to graduates of community colleges are by and large not the same as those available to graduates of 4-year colleges and universities (Brint & Karabel, 1989). Again, higher education had a means for shaping the lives of women, and in such a way as to ensure the continuation of different opportunities for different groups of people.

Community college faculty members are more likely than those at 4-year institutions to be part-time instructors, are less likely to hold the doctorate, and are less likely to be tenured. The traditional norms of the academic profession (Wilson, 1942) do not fully obtain for this population of college professors, although scholars have made it clear that community college faculty members are increasingly developing professional norms (Bayer & Braxton, 1998; Kempner, 1990). Nevertheless, the elements of prestige, discussed below, apply more often to faculty members at highly selective colleges and universities.

What cannot be overlooked in this discussion of women and 2-year colleges in the post-World War II period is the consequence of access not only in terms of group effects but also individual effects. We return to that discussion after analyzing changes in the highly selective colleges and universities.

In the late 1940s, the highly selective colleges and universities (the latter group dominated by research universities) were typically all-male or all-female institutions in the Northeast and coeducational in the South, Midwest, and West, although there were a number of exceptions in those three regions. They were also very White institutions, often enrolling only a handful of students of color. Students who graduated with their bachelor's degrees—especially the men—expected to enter careers befitting their collegiate education. *Campus Life* (Horowitz, 1987) highlights those expectations; Horowitz notes how collegiate men, particularly at prestigious institutions, created organizations and networks to further their opportunities after college. By the early 1970s, however, enrollments at these institutions began to change substantially. Many of the all-male and all-female colleges became coeducational, partly because of changes in societal gender norms but also from enrollment pressures, and albeit often under trying conditions for the women (Miller-Bernal & Poulson, 2004); further, many of the highly selective institutions began to recruit students of color.

Thus, on the surface, it appears that equality of opportunity began to make inroads at the highly selective institutions. Two factors, however, challenge that suggestion.

First, the phenomenal growth in the number of undergraduate students meant that even though a narrow reliance on White students from preparatory schools had disappeared at many of these institutions, their levels of selectivity had skyrocketed, rejecting as much as 90% of their applicant pools. While Jeffersonian notions about finding talent persisted at these institutions, those notions found new forms of practice as the widened applicant pools represented talent that

came as often as not from the middle class and even the upper class (Karabel, 2005).

Furthermore, these students did not rest on their baccalaureates. In other words, the credentials race increased. Selective institutions emphasized the importance of post-baccalaureate study. Competitiveness among the students often reached frightening levels (Horowitz, 1987)—there were reports, common enough, of students reading required articles in the library and then cutting out those articles so students in the same class could not complete the assignment. Nevertheless, access to elite professional schools was undeniably higher at those schools than at less-selective institutions. The students at highly selective institutions also had greater access to undergraduate opportunities such as paid summer internships at large corporations and financial firms, as well as to prestigious post-baccalaureate awards. For example, these schools cultivated students for the prestigious Rhodes Scholar awards (Youn, Arnold, & Salkever, 1999). By no means did these highly selective institutions simply decide that they had completed their work; the drive for better students and more money was every bit as unrelenting as Howard Bowen (1980) argued; in his work he identifies how colleges and universities compete not for profit margins but for prestige, and the means to prestige is through acquiring better students, better faculty members, and more money.

Thus, over time, the highly selective colleges and universities opened their doors to a wider range of students, women as well as men, minority students as well as White students. But within the context of the overall movement to mass higher education and the increasing reliance not on the baccalaureate but on the professional degree as a means to ensuring movement up the ladder of socio-economic success, this shift actually meant that those doors were no more open than they had been in the late 1940s.

Faculty members at highly selective colleges and universities are the highest paid, and often have the lowest teaching loads, in great part because institutions of higher education have increasingly come to value research over teaching and directly reward research with salary increases (Fairweather, 1993, 2005). Furthermore, this perspective on the value of research reinforces the primary method of institutional advancement, the accumulation and preservation of prestige (Bowen, 1980). In the specific area of faculty, a late 1980s replication (Burke, 1988) of a mid-1950s faculty recruitment study (Caplow & McGee, 1958) concluded that prestige continued to be the coin of the realm; according to Burke, prestige permeates research universities. In the late 1950s, Gouldner (1957, 1958) offered a thorough examination of the social roles of professors at a large state university and a small liberal arts college, concluding that faculty members at the large university were far more likely to focus on colleagues and expectations in their disciplines rather than, as was the case for the professors at the small liberal arts college, matters at their own college. Such concern is well documented for faculty members at research-oriented universities in the 1960s and thereafter (Geiger, 1993; Graham & Diamond, 1997), and, such concern for disciplinary recognition, translating into prestige, is reinforced in what Merton (1988) calls the Matthew effect, as well-known scholars accrue recognition even for research results that younger, less-recognized scholars have also identified. The power of prestige is substantial.

Indeed, prestige—marked by high-quality faculty with publications in the right journals and awards such as the Nobel prize, large amounts of federal research dollars, high rankings in *US News and World Report* surveys and the like—was also a key driving factor in the rise of the urban state university sector. In order to become and remain credible and legitimate, these universities had to conform to expectations in their environments by developing organizational structures, processes, and programs that mirrored those at the more selective institutions, most notably, graduate programs and research. From humble beginnings as YMCA schools, normal schools and step-children of their larger and better endowed land grant universities, these institutions fought for the support of their state legislators, expanded their graduate education and research missions, and competed for the best faculty and students while carving a niche as schools embedded in and serving the needs of their communities (Kidder, 2006).

Finally, despite the considerable capacity of community colleges and highly selective colleges and universities, they are imperfect instruments of social control. Access is a force which changes both the demographics and the institutions. For women, enrollment rates changed considerably in the post-World War II era. Given the overwhelmingly male enrollment resulting from the G.I. Bill, the mid-1950s offer a more insightful contrast; in 1955, almost 35% of college and university students were women, and by 2001 just over 56% were women (Digest of Educational Statistics, 2009). Shifts for students of color varied by group; unfortunately, long-term changes are not documented in federal studies. The percentage of African-American students increased from 9.4 in 1976 to 11.9 in 2002. In the same period, the percentage of Hispanic students increased from 3.5 to 10.0, and the percentage of Asian-American students shifted from 1.8 to 6.5%. The percentage of Native American students was virtually unchanged, 0.7% in 1976 and 1.0% in 2002 (Digest of Educational Statistics, 2009). As enrollment demographics changed, institutions developed programs of support, especially in student services and the rise of offices of minority student affairs, which at larger institutions often became different offices focused on separate racial and ethnic groups.

The highly contested spaces in professional schools resulted in a famous US Supreme Court ruling, the Bakke decision, in which a White male applicant was rejected for admission to the medical school at the University of California, Davis, and sued the University, claiming that it had reserved spaces for minority applicants and unfairly rejected him despite his qualifications. In 1978, in a 5–4 vote, the Supreme Court justices ruled that he (Bakke) be admitted, but also ruled that colleges and universities could take race into account in admissions decisions (Karabel, 2005).

In terms of faculty members and prestige, as Finkelstein, Seal, and Schuster (1998) conclude in their comprehensive examination of the professoriate, in many ways the face of the professoriate is changing, including the noticeably larger representation of White women and people of color, very much the result of differences in enrollments in doctoral programs. As noted earlier, one consequence of the feminist and racial and ethnic movements of the 1960s and early 1970s is the growth of area studies such as women's studies, African-American studies, Chicano/a and Latino/a studies, and American-Indian studies. These specialties are often supported

as interdisciplinary units, since they do not necessarily have an academic home in one of the traditional disciplines. The post-1960s growth of these units differed from their origins in the 1950s, when area studies arose from concern about Communism. In the 1950s, the emphasis was on areas of the globe rather than identity; the impetus for gender, race, or ethnicity identification was much greater than in the later decades (Hutchesson, 1996b; Rudolph, 1977). Hence, these groups of students, faculty members, and staff members found physical, social, and intellectual spaces on campus through these departments. Eisenmann (2006) found a similar approach occurring during the 1950s and 1960s for women, especially in their use of continuing education programs and centers.

Such curricular changes were not always necessarily welcome, however. Philosopher Allan Bloom wrote what became a highly popular book, *The Closing of the American Mind* (1987), in which he argued that higher education in the United States, especially at elite institutions, had lost its purpose by focusing on such issues as gender and ethnic studies and a broadened recruitment of students of color. Bloom's argument about a loss of purpose was hardly new, as Carnochan (1993) showed when highlighting debates about the purpose of higher education that had occurred in the late 1800s. Then, such issues as the elective system, the utility of education, and the significance of research (Veysey, 1965) all had challenged traditional ideas about the nature of curriculum. The intensity of the 1980s debates about curriculum, dubbed the "canon wars," reached beyond professors and academic administrators, to even the public, as groups argued passionately about what authors or books should be required reading for students. Typically, the arguments focused on whether the traditional canon—usually European books—were more or less appropriate than varied works by authors across the globe (Carnochan, 1993). Hence, from the increased attention to the uses and expenditures of higher education in the 1970s to the involvement and interest in the college and university curricula, there was a foreshadowing of increased focus on accountability by the early 2000s.

Thus, the varied historical issues in higher education—access and exclusion, curriculum, faculty responsibilities, costs—are highly complex; while such a conclusion is hardly surprising, it serves as a reminder that writing histories of higher education is no easy task. Attempting to find any overall themes to explain the conduct of higher education over several decades is a daunting task, but not one we choose to eschew. Although one historian of higher education (Rudolph, 1962) astutely noted that academic drift seemed to characterize US higher education from the colonial era to the early years of the post-World War II era, we argue that since the late 1940s, slowly but surely, national interest in the form of the federal government as defined by neoliberals has come to dominate expectations for colleges and universities.

The Present and the Past

No Child Left Behind was the most intrusive federal education legislation ever passed. In regard to higher education, accountability, as we noted, became a powerful mechanism for the federal government in the late 1960s, ensuring that

colleges and universities matched such socially important goals as equality of opportunity. By the 2000s, accountability became a far more powerful mechanism. Students must now sign multiple statements in order to receive federal financial aid, swearing that they have not been arrested for various offenses, and men must swear that they have registered for the draft—a draft that we do not use. No student matriculates today at a college or university without the requisite immunizations. Students who receive financial aid must have an exit interview in order to graduate. Faculty members conducting research with human beings or animals must certify that they behave ethically, in what is often a time-consuming process involving both an ethics test and submission of the research proposal to an independent board of review. Administrators struggle under the burden of reporting institutional data—how many of which people are doing what when—to the federal government. These reports include data on the demographics of students, faculty members, and administrators, but increasingly the reports (as well as the federal politicians' calls for accountability) focus on the job placement of graduates. Higher education institutions also must demonstrate to the Internal Revenue Service that they have whistleblower, record retention, and conflict of interest policies and that they are not overly zealous in compensating their most highly paid employees (often faculty members in medicine, business, or law), even though they are not legally required by Congress to do so. The irony of so many commentators in the late 1940s and early 1950s arguing for federal aid to higher education based on the autonomy accorded to institutions of higher education at that time rings with an important historical truth: The past does not predict the future.

The past, however, does inform the present. Thus, as we have shown, the complex ways in which institutions of higher education have sustained the social and economic order while simultaneously shifting aspects of that order continue today. Two-year colleges, known for providing remarkable access and also serving as a means of sorting students, are now beginning to offer baccalaureate degrees. These institutions, created by and large to offer direct access to higher education in a geographic form, are now increasingly able to offer access to the baccalaureate. Similarly, the urban state universities have engaged in mission creep focused on graduate education and research. The emphasis is on community-based, applied research, to be sure, but these institutions no longer focus primarily on teaching. Nevertheless, despite the aspirations to become baccalaureate-granting or doctoral institutions, it is well to remember that the most elite institutions are tirelessly working to sustain their status, a status built on the distance between “us” and “them.” The discussion of private junior colleges for women, the rise of community colleges as places for adult women in the 1970s, and the continuous efforts of research universities and highly selective small private colleges to distinguish themselves from the rest of higher education serves as a reminder that all is not equal in US higher education.³ The focus on prestige remains, even as access broadens.

³We would be remiss if we did not acknowledge that status differentiation characterizes higher education institutions and systems throughout the world.

So what of No Child Left Behind? How could that act, for federal financing of the nation's public schools, serve as an example of what the future of US higher education might look like? Simply put, the federal government, through its executive and legislative branches, now looks even more closely at all levels of education in this country as a matter of national interest and, in doing so, creates heightened accountability.

Accountability to what end? Even though some early supporters of No Child Left Behind, particularly among centrist and conservative scholars, now object to the Act (Ravitch, 2010), there is little to suggest that the Obama administration plans to institute substantial changes. Accountability remains a choice word of the politicians and pundits who support the Act. More important for the sake of this essay, ideas about education from No Child Left Behind connect to the most recent federal commission statement on higher education, the Spellings Commission. There, issues of diversity and equality of opportunity appear, but almost always couched in terms of the need for global competitiveness. The workforce has gained enormous importance. Similar to the 1983 assessment of what the nation needed from its public schools in *A Nation at Risk*, in which the authors declared that the United States was losing the war in global economic competition, so too the recent federal discussions place far more emphasis on the need for colleges and universities to graduate students prepared for jobs that will improve the nation's global economic status (Hutcheson, 2007). It is no small matter that the most rapidly growing sector of US higher education is the for-profit colleges, often called career colleges, that prepare students for specific employment. Furthermore, those institutions have increasingly become eligible for federal financial aid programs, furthering the federal emphasis on higher education for predictable employment. In fact, one critic of the for-profit sector noted that these institutions accounted for more than 20% of the \$89 billion in available Title IV loans and grants in 2009, despite having only 10% of the nation's postsecondary students (Gonzalez, 2010). The emphasis on usefulness affects faculty, as well; increasingly, they are pushed in both their research and instruction to demonstrate appropriate usefulness.

Obviously, jobs for the college-educated are not equally distributed. The height of the glass ceiling may have been raised, but it remains in place; gender differences, racial and ethnic differences, and class differences all sustain. Graduates of elite colleges and universities, especially from professional schools, will continue to hold, in general, more powerful positions in the polity and the economy. If the lessons of World War II outlined in the report of the 1947 President's Commission on Higher Education, *Higher Education for Democracy*, had sustained, we would be educated for diverse leadership in the democracy, and not simply for a diverse workforce in a global economy.

Conclusion

Over time, historians of higher education have investigated a broad range of topics; given their small numbers, the range might even be considered remarkable.

Nevertheless, gaps remain in their coverage. Deeper looks at institutions are needed, as well as the larger question of how historians can interpret the actions, values, and goals of colleges and universities.

First, a recent development in higher education, the growth of for-profit or career colleges, is now old enough to warrant historical study. Such institutions have been part of US higher education for a long time; venture schools, a type of non-profit found even in the colonial period, show that their history is far longer than some may realize. But it is their recent phenomenal growth that clearly places such schools at the forefront for needed historical study.

In contrast, 2-year colleges have been part of US higher education for over a century, yet they remain on the margin of historical study (Hutcheson, 1999). While part of the problem is that those institutions do not often preserve their histories in archives (Leslie, 2000), there are many ways of documenting what they have done (Frye, 1992; Gallagher, 1998; Pedersen, 1995). Two scholars of higher education, Cohen and Brawer (2008), have sustained scholarly inquiry into community colleges for decades, and their work as well as that of other scholars in the postwar period warrants deeper examination by historians. More telling, community colleges are now the primary access point to higher education, typically enrolling a majority, or near majority, of all new students each year, and consistently enrolling a disproportionate share of African Americans, Hispanics, and Native Americans.

A similar pattern may be found in the urban state university sector of American higher education. Institutions in this sector enroll more than a million students each year, most of them working-class commuters and adult workers and many of them African American and Hispanic. However, despite their clear importance in post-World War II American higher education, little scholarly work has focused on this sector or the institutions that operate in this niche. Almost all of the works that do exist are celebratory “house histories” with very little analytical content (Goodchild & Huk, 1990). Thelin (2004) does not mention the urban state universities sector in his otherwise comprehensive history of American higher education. Geiger (1986, 1993), Freeland (1992), Potts (1999), and others have focused their scholarly efforts on major research universities and traditional, elite liberal arts colleges. Graham and Diamond (1997) broaden the lens, but their focus on scholarly production based on research grants received, published research, and peer approval of that work only incidentally captures some of the urban state institutions. The 2007 ASHE reader on the history of higher education (Wechsler, Goodchild, & Eisenmann, 2007) contains only one entry focusing exclusively on an urban state university (Beuttler, 2005). A number of institutional encyclopedias have been produced, but none focuses on an urban state institution (Geiger & Anderson, 2005). *Metropolitan Universities Journal* and *Metropolitan Universities: An International Forum* are dedicated to publishing essays and research on the emerging model for urban institutions, but they have attracted no serious historians to reflect either on individual institutions or the sector, focusing instead on current issues affecting this changing group of schools. How this nation educates all students, and in the process prepares for its future, is a fundamental question. Historians of higher education

can contribute to the question by investigating institutions of higher education that provide access.

So, too, have colleges with strong religious emphasis been part of higher education since the colonial period, although historians generally refrain from suggesting that the colonial colleges were seminaries, recognizing their more complex relationships with civil as well as ecclesiastical society (Hofstadter & Metzger, 1955). Many of the Protestant institutions survived the secularization of the 1960s, and some others were founded in the 1970s and thereafter, such as Liberty Baptist University. We have virtually no scholarly history of those institutions, as Eisenmann (1999) reminded fellow historians several years ago. So, too, Catholic colleges and universities have a long history in the United States, and there is no recent, comprehensive examination of those institutions.

Two other groups of colleges and universities have received very little attention from historians of higher education. Hispanic-Serving Institutions (designated as such in the 1992 re-authorization of the 1965 Higher Education Act) are relatively young by legal definition, but many institutions of higher education in the Southwest have long enrolled large numbers of Hispanic students (Gasman, 2008). MacDonald and Garcia (2003) note in an overview from 1848 to 1990 the protests for access in the 1960s and federal intervention designating Hispanic-Serving Institutions in the 1990s, suggesting the important issues of access and national interest. Similarly, tribal colleges and universities can trace their origin to 1878 and the establishment of Sheldon Jackson College in Alaska (Olivas, 1982). Thus, institutions that serve specific populations, while receiving increasing attention from historians of higher education, need more examination if we are to clarify the complex and powerful ways in which higher education shapes students and society. Women's colleges (both White and Black), Black colleges, tribal colleges, Hispanic-serving institutions, all have been places where the tensions of dominant norms in such matters as curriculum find special arguments situated not simply in the dominant institution but in an institution that preserves important cultural and intellectual traditions.

In terms of students, historians of higher education have not yet delved deeply into patterns of enrollment and engagement beyond broad social identities such as gender, or the question of how gender and race and ethnicity interact for students, faculty members, or administrators. One noteworthy exception (Crocco & Waite, 2007) suggests that such examinations offer key elements of how students make their way through undergraduate and graduate education, as well as how they perceive their efforts in broader terms, including gender and race. Crocco and Waite find that African-American women earning the doctorate in the 1940s and early 1950s perceived their role as addressing racial uplift and recognizing gender issues. Another good example provides an overview of the literature on African-American women and US higher education (Gasman, 2007b), arguing that the history of higher education needs much more study of the role of African-American women at Black colleges. Gasman finds that African-American women played important roles in the development of Black colleges, but the literature tends to overlook their contributions.

Nor have historians offered much discussion of sexual identity and the academy, although some have examined professors during McCarthyism and the Cold War (Graves, 2009; Weiler, 2007), highlighting how supposed anti-Communist sentiments served to cover anti-gay and lesbian sentiments. Dilley (2002) appears to be the only scholar to have offered extensive discussion of gay men on campuses, noting their marginalization, their ambiguities about their identities and their presence on campus, yet also their determination to sustain their identities. The issue of disabilities is also very new for historians, although Christiansen and Barnatt (1995) and their discussion of Gallaudet College could well be an excellent starting point.

In regard to college and university administrators, other than a number of biographies of presidents—none of which was reviewed for the purpose of this essay, although at least some of them are insightful reading—there is really no history of higher education administration. Although college and university institutional histories very often organize discussion around the sequence of presidents (Goodchild & Huk, 1990), and more than one history of higher education attends to presidents (Rudolph, 1962; Veysey, 1965), we know little about the growth and changes in college administration in such areas as admissions (Thelin, 1990) or fundraising. As noted earlier, histories of student personnel services tend toward an artifice, the assumption that faculty members in the late 1800s moved toward research activities and away from concern about student life, and hence, that particular area would be well served by a thorough revisionist approach. While historians have examined student services prior to World War II, there has been less attention to the post-World War II period (Schwartz, 1997a, b, 2003), and scholars of higher education would benefit from more such examinations. For example, important issues such as the history of the postwar development of big-time college sports for women merit investigation. So does the issue of *in loco parentis*, particularly since a 1961 foundational case, *Dixon v. Alabama*, involved the expulsion of Black students who participated in a sit-in (Jacobson, 1963).

While the history of student financial aid has one strong contribution (Wilkinson, 2005), there remains a substantial gap in the discussion of the financing of higher education. Some scholars (Gasman, 2007a; Walton, 2005) have begun to examine how different groups, such as Blacks and women, have approached philanthropy, and in doing so have begun to redefine philanthropy away from only the large donations of private foundations and wealthy individuals. However, we still know little in historical terms about how higher education has been funded beyond large contributions by individual donors, large research dollar commitments, and federal financial aid. In addition, shifts in student fees, particularly among public institutions of higher education, remain an unexamined area, and likely a fruitful one given the relationships between access and cost.

Finally, these recommendations, as well as the breadth of historical examinations reviewed in this essay, suggest a more fundamental problem, one that historians sometimes grapple with and sometimes avoid. Historical study often tries to incorporate all that happened, rather than using a theory to describe what happened and setting aside the facts that do not fit. Inconvenient facts can trouble historians. Nevertheless, there are larger driving forces in human affairs, and historians often

try to explain how the actions of individuals or institutions fit, at times unevenly, with those larger forces. Certainly, there are conditions in US higher education that have characterized institutions of higher education at least since the Middle Ages (Haskins, 1923)—faculty quarrels at department meetings, students preferring to spend their money on music and wine rather than books. Nevertheless, given the developments in US higher education in the post-World War II era, it seems appropriate to end this chapter with a seemingly simple but actually rather complex challenge to historians of higher education.

Contemporary scholars have articulated the characteristics of the corporate university, including the active promotion of that form of higher education among faculty members (Slaughter, 1990; Slaughter & Leslie, 1997; Slaughter & Rhoades, 2004). Nevertheless, there is virtually no discussion of the history of how we arrived at such a definition of the purposes of higher education (Best, 1988; Hutcheson, 2007). Neoliberalism is a clear descendant of classical liberalism, most clearly articulated in its earliest form by Adam Smith in *An Inquiry into the Nature and Causes of the Wealth of Nations*.⁴ Historians of higher education in the United States are in a unique position to show how institutions of higher education reflected the changes from classical liberalism to neoliberalism as instruments of knowledge, as instruments of socialization, and as instruments of national interest. Perhaps such inquiry would lead scholars of higher education to some understanding of what can only be taken as the primary missing variable in scholarly analysis and understanding of higher education in the United States, socio-economic class, a characteristic with only a few investigations, and those focused on the pre-World War II era, as Nidiffer (1999) points out. Certainly, we can work harder to document changes in terms of gender, race, and ethnicity, as the data from the *Digest of Educational Statistics* indicate, and this review makes clear that those changes are important—in contrast to changes in social class; even recording financial aid recipients masks ranges across social classes. Nevertheless, as we have shown, post-World War II changes in higher education show a substantial relationship between the growth in institutions and the impact on social class. Until we know more about that relationship, the history of the impact of higher education on this nation will remain incomplete.

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⁴This book is now available for free through Kindle.

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Chapter 7

Conducting Multi-paradigm Inquiry in the Study of Higher Education Organization and Governance: Transforming Research Perspectives on Colleges and Universities

Adrianna Kezar and Jay R. Dee

Introduction

Researchers in the field of organizational theory have begun to adopt new analytical and methodological approaches that capitalize on the strengths of multiple social science paradigms (Gioia & Pitre, 1990; Hatch, 1997; Martin, 1992; Schultz & Hatch, 1996). Rather than viewing paradigms as distinct and incommensurable domains, organizational researchers are beginning to use multiple paradigms in the same study to form their research questions, shape their methods, and ground their data analyses. These new forms of research are known as multi-paradigm inquiry, which refers to the intentional use of two or more paradigms in the same study to guide each element of the research process. Studies have used two or more paradigms to examine organizational constructs such as culture (Martin, 1992), structure (Reed, 1997), power and politics (Gaventa, 1980), and strategy (Gioia & Thomas, 1996; Jarzabkowski, 2008).

The benefits of multi-paradigm inquiry can be significant. Multi-paradigm inquiry may be particularly beneficial for developing the knowledge base in highly contested research areas where scholars have significant disagreements about appropriate ways to conceptualize and study related phenomena (Lewis & Grimes, 1999). Studies using multi-paradigm techniques can lead to a greater awareness of the paradigms that undergird various research traditions, as well as highlight the differences and similarities among various paradigms with respect to specific organizational foci. Researchers can then make better informed decisions regarding their selection of paradigms and related theories to better match the phenomena that they seek to study. Through multi-paradigm inquiry, researchers can also develop new theories that incorporate a broader range of insights from multiple paradigmatic standpoints (Lewis & Grimes, 1999). This type of theoretical development is important, because the descriptive and analytical capacities of organizational theories

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need to correspond to the complex, multi-faceted, ever-changing organizational phenomena that they seek to explain (Poole & Van de Ven, 1989).

An example of multi-paradigm analysis that has had a major impact on organizational studies is Martin's (1992) examination of culture, which explored how the concept is formulated differently by researchers from a positivist (focusing on culture as a unifying concept), interpretive (focusing on culture as more individually interpreted), and postmodern paradigm (culture as made up of contesting subgroups). Martin's study does not just review the concept across the three paradigms but also examines how culture can be re-envisioned by bringing together these different conceptualizations of culture. As Martin's example illustrates, the value of multi-paradigm inquiry is to deepen understandings of phenomena by identifying and theorizing connections and contrasts among equally valid findings generated from different paradigms.

Researchers who study higher education organization and governance¹ are now conducting studies that represent perspectives from a larger number of paradigms. Previous reviews of the literature (Milam, 1991; Peterson, 1985) indicated that the vast majority of studies of higher education organization and governance were conducted from the functionalist paradigm. Although the functionalist paradigm remains most prevalent, we have seen significant growth in the use of the interpretive paradigm, increasing use of the critical paradigm, and a few scholars venturing into postmodernism.² While we endorse the use of a wider range of paradigms, the studies that are produced still reflect the perspectives and assumptions of a single paradigm. Thus, we now have studies of higher education organization and governance that are based on functionalist, interpretive, critical, and postmodern paradigms, but few studies incorporate perspectives and insights from more than one of these paradigms.

The lack of interaction across paradigmatic boundaries may have detrimental implications for the growth and development of theory and research within a field of study. When groups of scholars within a particular field of study begin to use different paradigms to guide their research, frequently the adherents to established

¹When we refer to organization in the context of higher education studies, we are referring to the ways that people relate to each other and form more formal structures and groups in order to conduct work and accomplish goals. The form that is taken is typically a college, a university, a department, or a school. Yet, other forms of organization exist. Studies of organizations may also include the examination of larger social and political structures that impact and shape the organization of a school or a college. The term governance refers to the structures, processes, and people that are invested with authority to make policies for higher education organizations.

²We are using the paradigm framework provided by Lincoln and Denzin in the *Handbook of Qualitative Research* (all editions). Some scholars divide up the paradigms differently and see critical theory and postmodernism as interconnected. Others divide out feminism from critical theory (Crotty, 2001). We recognize that there is not one universally agreed upon way to label paradigms and that some are inter-related and not completely different worldviews. Yet, for the argument's sake, we present Lincoln and Denzin's framework as it is the most widely used schema for understanding paradigm distinctions.

and emerging paradigms develop separate systems of language and communication that preclude their ability to work together effectively (Burrell & Morgan, 1979). Paradigmatic assumptions about the nature of reality and the nature of knowledge tend to lock scholars into opposing dichotomous categories, such as objectivity versus subjectivity. When these dichotomous categories become reified, scholars in one paradigm see no possibility for interaction with scholars from an alternative paradigm. Moreover, scholars themselves fail to see bridges and connections across paradigms that can inform their own research. This same dilemma exists among the disciplines where scholars tend to stay squarely within their narrow discipline and miss opportunities for seeing insights that could be gleaned by applying another disciplinary perspective. Yet, there is strong and growing support for the importance of inter-, cross-, and multidisciplinary research that brings in the insights across and between disciplines. We believe that the same logic that has brought attention to the value of multi- and interdisciplinary research can be applied to the argument for and support of multi-paradigm research. While scholars initially resisted the importance of expanding research to incorporate more than one discipline based on tradition, over time such work has led to valuable new insights and is now supported by government agencies, foundations, and businesses. This level of support has brought many scholars into conducting work in new ways.

Our goal in this chapter is to familiarize higher education researchers with approaches to multi-paradigm inquiry that have been developed in the field of organizational theory and that could readily be applied to the study of higher education organization and governance. First, we discuss how organizational theorists began to use a wider range of paradigms, and how this paradigm diversity also became more prevalent within the field of higher education organization and governance. Second, we examine specific analytical and methodological approaches to multi-paradigm inquiry, which are now used by scholars in the field of organizational theory. We highlight some exemplary studies that demonstrate the richness and complexity of findings that can emerge from multi-paradigm inquiry. Then, we discuss the few available studies in higher education organization and governance that use a multi-paradigm approach.

In order to foster more extensive use of multi-paradigm inquiry in the field of higher education, we identify directions for future multi-paradigm research on issues related to organization and governance. We conclude with an overview of the practical considerations associated with conducting multi-paradigm inquiry, as well as recommendations for researchers who seek to incorporate these techniques into their research repertoires. The following is the organization of the chapter:

- I. Paradigms in organizational theory
- II. Paradigms in higher education research
- III. Multi-paradigm inquiry
- IV. Charting the course for multi-paradigm inquiry in higher education
- V. Practical considerations and possible challenges for multi-paradigm research

Paradigms in Organizational Theory

Paradigmatic Assumptions

A paradigm consists of the assumptions, practices, and agreements that guide a research community (Lewis & Grimes, 1999). Paradigms underlie all efforts at theory building and knowledge production, because they consist of all the main philosophical assumptions that guide research and explicitly or implicitly drive all decisions made by the researcher. They shape which research questions get asked, which methods get selected, which data are considered meaningful, and which concepts become prominent in the study findings.

Although paradigms encompass many sets of assumptions, we focus on three that appear to have the most relevance to social scientific inquiry (Lincoln & Guba, 1994). First, paradigms differ in their ontological assumptions about the nature of reality. Some researchers believe that reality is an objective phenomenon about which incontrovertible knowledge can be discovered. The aim of research is to discover new knowledge about a previously unknown component of reality. Researchers may differ in their views of what reality is, but they assume that they can resolve their differences through scientific methods of reason, logic, and empirical inquiry. With better, more reliable measurement tools, researchers will be able to obtain an increasingly accurate portrait of the “true” nature of reality. In contrast, other researchers believe that reality is a subjective construction. People construct reality individually and socially through their interactions with others. Rather than attempting to discover the “truth” about a phenomenon, researchers in the subjectivist tradition seek to uncover multiple truths that are inextricably intertwined within the social contexts in which those truths emerged.

A second set of assumptions, epistemology, pertains to the nature of knowledge. One epistemological assumption is that knowledge is (or should be) unbiased and not laden with the values of the researcher or those of the study participants. The goal is to uncover knowledge about reality that is uncontaminated by human bias. In contrast, a second epistemological assumption holds that knowledge cannot be separated from the value systems of individuals. If knowledge is created through social interaction, then the perspectives and values of individuals will necessarily shape the findings that are produced.

A third assumption focuses on methodology. Some scholars believe that the research process should be carried out as a deductive investigation into relationships among predetermined sets of variables. This deductive assumption leads to studies of how a set of independent variables influences or shapes outcomes on a particular dependent variable. The goal is to identify general patterns in relationships among variables that can be generalized within the population of individuals or organizations in which the study takes place. Other scholars, however, adhere to inductive assumptions about the research process; here, research findings are assumed to emerge from the unique contexts in which the study takes place. Rather than determining the variables to be studied in advance, researchers discover which constructs

are important based on the meanings and interpretations that study participants assign to those factors. The goal is not to generalize findings but instead to develop “thick descriptions” of localized conditions (Geertz, 1973).³

A paradigm, according to Lincoln and Guba (1994), will be characterized by its own unique set of assumptions regarding ontology, epistemology, and methodology. In this chapter, we focus on the paradigms described in Lincoln and Guba’s typology (functionalist, interpretive, and critical). Other typologies of social science paradigms are available (Astley & Van de Ven, 1983; Burrell & Morgan, 1979); however, we selected this typology because the paradigms included within it appear to represent the different approaches taken by higher education researchers in their studies of organization and governance. In addition to the three paradigms identified by Lincoln and Guba, we also include postmodernism as another important perspective that has shaped recent developments in organizational theory and that has relevance for emerging research topics in the field of higher education organization and governance (Bloland, 2005).

The functionalist paradigm is based on the belief that reality (the social world in which we operate) is an objective phenomenon, which consists of verifiable facts and observable behaviors. Researchers attempt to measure and observe the social world so that they can obtain valid and reliable explanations of reality. Such explanations allow researchers to draw conclusions about the probable causes of various social problems. An economist, for example, may observe how “boom and bust” cycles in the stock market are associated with patterns of regulation and deregulation in various industries. If probable causes can be identified, then researchers can predict the likely outcomes of various interventions and actions (in this case, imposing more or less regulation on various markets), and leaders and policymakers can make informed decisions that are more likely to result in desired outcomes.

Functionalism is also associated with an empirical approach in which collecting facts, observations, and information could lead to the discovery of underlying principles or operating conditions that are universal or generalizable and can lead to predicting certain organizational outcomes (Katz & Kahn, 1978; Merton, 1957; Parsons, 1951). Scholars using this tradition also believe that it is the role of researchers to be as objective as possible to ensure that scientific findings are obtained through a neutral process. In the functionalist paradigm, scholars view the research enterprise as largely apolitical and separate from a world of individual and group interests; therefore, they seek to minimize any bias that could affect their studies. The research designs used to accomplish these goals are largely deductive with an emphasis on determining which variables explain or predict outcomes on a phenomenon of interest. More recently, functionalism has been altered to address some

³While an inductive approach tends to be associated with the interpretive paradigm and the deductive approach is more often used by functionalist researchers, neither paradigm is inherently inductive or deductive. Researchers from both paradigms can come from an inductive or a deductive approach.

of the critiques from the interpretive, critical, and postmodern paradigms. Postpositivists and neofunctionalists, for example, acknowledge that researchers are incapable of neutrality (although it is still an ideal goal). They strive for objectivity, but admit that it is difficult to achieve, and they understand that the world is known through subjective experience, yet they strive for uncovering a single view of reality (Crotty, 2001; Denzin & Lincoln, 2000).

The interpretive paradigm deviates from functionalism in highlighting that reality is a social construction that is experienced subjectively by different individuals (Berger & Luckmann, 1966; Weick, 1979). While we often have a shared or common understanding, experience is filtered through individuals, and there is not a singular reality that can be captured through research. Researchers attempt to discover multiple interpretations to best collect a shared sense of reality, yet they believe that our understanding of reality is always partial and imperfect. Also, researchers in the interpretive tradition note the significance of culture and context for shaping phenomena. In order to obtain this type of contextual knowledge, scholars typically use inductive research designs, which provide opportunities for study findings to reflect constructed meanings that are unique to particular cultural contexts. Interpretive research, however, is not synonymous with qualitative inquiry. Some forms of qualitative inquiry are based on positivist assumptions and seek to uncover generalizable principles through objective observation (Yin, 2003). Thus, the differences between positivist and interpretive approaches cannot be reduced to a quantitative versus qualitative debate.

The critical research paradigm highlights the importance of power dynamics in society as central to comprehending the way the world operates and to understanding any human enterprise or endeavor (Braverman, 1974; Deetz, 1992; Mumby, 1988). The goal of critical theory is to uncover oppressive features of society and to work toward more egalitarian and equitable practices. Researchers who conduct work within the critical paradigm often bring in unique methodologies and theories such as feminism and critical race theory to better understand and analyze the experiences of study participants. Similar to the functionalists, many critical theorists believe in a singular and shared reality and tend to de-emphasize the subjective nature of experience. Power and oppression are real and not merely phenomena that people interpret in different ways. Unlike the functionalists, however, researchers within the critical paradigm acknowledge that research is not neutral or value free, and they actively examine and question the underlying assumptions of research and the way the world operates. Because part of the work of critical theory is to examine underlying structures and to question and problematize them, part of the research agenda in critical theory is to develop new operating principles or constructs for society.⁴

⁴It is important to note that the first three paradigms that we introduce reflect the major thinking of the founding scholars in sociological thought: Durkheim (functionalism), Weber (interpretivism), and Marx (critical).

The postmodern paradigm⁵ also reflects a unique and different approach to conducting research.⁶ In many ways, postmodernism is a critique of functionalist approaches to science. Much of the work of postmodernism has focused on demonstrating that the fundamental beliefs of functionalism, such as a value-free science, objective reality, and generalizable or universal principles, are inaccurate and distort what science is and can achieve (Derrida, 1976; Foucault, 1986). They share many of the assumptions of interpretivists, including that reality is socially constructed, that subjective individual experience is important, that history and context influence social reality and understandings of knowledge, and that interpretation plays a significant role in the research process. However, they differ from interpretivists in that they see this interpretive role much more problematically. Postmodernists argue that the interpretations of researchers are likely to represent elite interests and be biased toward those in positions of power (Bloland, 2005). Any attempt by a researcher to put forward an interpretation of a social system will necessarily include certain perspectives and exclude others. By attempting to identify patterns and commonalities, researchers necessarily neglect or downplay what is peripheral or marginal.

Consistent with the critical paradigm, postmodernists are concerned about the potential of social systems, including organizations, to oppress and marginalize less powerful groups in society. They share the critical theorists' concern that power is an overriding force in society and in science. Postmodernists, however, differ from critical theorists in how they conceptualize power in their analyses. While critical theorists attempt to develop generalizable principles regarding power relations, hierarchy, and oppression, postmodernists claim that reality is too ambiguous, complex, and fluid for researchers to offer any type of definitive claim about social systems. Postmodernists, instead, focus on the fragmentation and indeterminacy of human experience.

Paradigm Debates in the Field of Organizational Theory

Thomas Kuhn (1962) is widely credited as the first social scientist to conceptualize paradigm differences. According to the tenets of scientific method, researchers were assumed to stand on the proverbial shoulders of giants in their fields of study, and extend the boundaries of knowledge by building on previous studies. In contrast, Kuhn argued that scientific developments seldom occur as incremental additions to previous research findings. Kuhn claimed that revolutionary advances are more likely to occur when researchers do not follow the traditional conventions of their

⁵Postmodernism, like each of these paradigms, is made up of various individual scholars and theories, and not all postmodernists adhere to all these assumptions. One major split is that many postmodern scholars emphasize power conditions, while another set focuses more on language and the social construction of reality (Crotty, 2001).

⁶Some authors see postmodernism as a paradigm (Crotty, 2001), while others see it as a perspective with highly contested meanings, which are hard to solidify into a clear set of underlying beliefs or values (Bloland, 2005).

field. Knowledge production, according to Kuhn, is not a linear process defined by incremental accomplishments. Instead, scientific developments are the result of dramatic changes—paradigm shifts—in the assumptions and belief systems of researchers (Hassard & Kelemen, 2002).

Paradigm shifts, according to Kuhn, are characterized by transformations in the underlying assumptions of a group of researchers. These changes, however, are not comprehensible from the perspective of researchers operating under the assumptions of the previous frameworks in the field. The differences between the new paradigm and the old cannot be accommodated through the use of rational or formal logic. No common criteria can be arrived at for adjudicating differences between the perspectives. Hence, Kuhn argued that paradigms are incommensurable, that is, a condition where there are no standards of comparison upon which conflicts can be resolved (Scherer & Steinmann, 1999).

Burrell and Morgan (1979) were among the first to apply Kuhn's notion of paradigm to analyze developments in the field of organizational theory. Their perspective was consistent with Kuhn's earlier argument that paradigms are incommensurable. According to Burrell and Morgan, the various social science paradigms are so different that meaningful communication among them is impossible; "one cannot operate in more than one paradigm at any given point in time, since in accepting the assumptions of one, we defy the assumptions of all the others" (p. 25).

Following the work of Burrell and Morgan (1979), other organizational researchers developed additional characterizations of paradigm difference. Some of these researchers continued to endorse the notion of incommensurability of paradigms (Donaldson, 1995; Pfeffer, 1993), but others were more optimistic regarding the possibility for dialogue and cross-fertilization across paradigms (Gioia & Pitre, 1990; Schultz & Hatch, 1996). Martin (1992), for example, developed a three-paradigm framework—functionalist, interpretive, and postmodern—to analyze organizational cultures from the perspectives of integration, differentiation, and fragmentation, respectively. Martin argued that "any cultural context contains elements that can be understood only when all three perspectives are brought to bear" (p. 174). Rather than viewing paradigms as isolated communities, these researchers suggest that paradigms can provide multiple lenses with which to examine complex organizational problems.

The idea of using multiple frames or lenses to examine organizational problems also became prominent within the managerial practice literature. Texts such as Bolman and Deal's (1991) *Reframing Organizations* encouraged leaders to examine organizations through structural, human resource, political, and symbolic frames. These types of frame analyses, however, should not be equated with multi-paradigm inquiry. Bolman and Deal argue that decision making and organizational effectiveness can be improved when leaders analyze a wider range of organizational components, including structures, human relations, power, and culture. Yet they are not calling for organizational researchers or leaders and managers to examine these constructs through different paradigmatic lenses. Bolman and Deal, for example, argue that leaders need to pay attention to culture, but they are not arguing, as did Martin (1992), that leaders need to consider functionalist, interpretive, and

postmodern perspectives on culture. Thus, a frame analysis based on Bolman and Deal may be conducted entirely within one paradigm; indeed, the vast majority of theories discussed in Bolman and Deal's *Reframing Organizations* emanate from the functionalist tradition.

The paradigm movement in organizational theory has engendered some measure of resistance. Pfeffer (1993), for example, argued for unifying the field around a single paradigm in order to establish the legitimacy and influence of organizational studies. Similarly, Donaldson (1995) claimed that paradigm proliferation has fragmented the field and made organizational research less useful for practitioners. These critics view the different paradigms as incommensurable, but unlike Kuhn (1962) and Burrell and Morgan (1979), they advocate for the abandonment of all but the most robust frameworks and call for unification around a dominant paradigm.

Hassard and Kelemen (2002) offer a useful taxonomy to characterize the various approaches that researchers have taken regarding paradigm difference. They identified five main "camps" in the paradigm debates. Critics of paradigm proliferation, such as Pfeffer (1993) and Donaldson (1995), are categorized as "integrationists." They seek to combine paradigms into an integrated field of study. However, as Hassard and Kelemen (2002) note, this often leads to a privileging of the dominant positivist, functionalist paradigm.

Kuhn (1962) and Burrell and Morgan (1979) are described as "protectionists." They argue that incommensurability protects new, emerging paradigms from being overwhelmed by the dominant paradigm in a particular field of study. If paradigms are viewed as incommensurable, then there are no universal criteria upon which to judge the relative strength and/or the validity of divergent knowledge claims. Each paradigm is allowed to develop on its own terms. Protectionists voice concerns that commensurability, in contrast, would lead to the adoption of positivist/functionalist validity criteria, which would automatically deem research in emergent paradigms as devoid of scholarly merit.

A third group of researchers includes the "pluralists," who promote communication across paradigms and conduct paradigm-crossing research. Pluralists claim that multi-paradigm research is desirable, given the complexity and diversity found in most organizational contexts (Schultz & Hatch, 1996). Gioia and Pitre (1990), for example, argue that research studies in the field of organizational theory "have tended to produce valuable, but nonetheless incomplete, views of organizational knowledge, mainly because they have been predicated predominantly on the tenets of one major paradigm" (p. 584). While not all organizational inquiries lend themselves to a paradigm-crossing approach, Lewis and Grimes (1999) claimed that multi-paradigm inquiry is best to use when studying multi-faceted phenomena characterized by expansive and contested research domains. Some of these domains include organizational strategy, decision making, power, culture, structure, diversity, and leadership.

The two remaining categories in Hassard and Kelemen's taxonomy include "non-consumers" (that is, researchers who are unaware or do not acknowledge paradigm differences) and "postmodernists" who typically reject the usefulness of

any paradigmatic framework and argue that any communication across paradigmatic boundaries is likely to be distorted by bias and power (White & Jacques, 1995).

Later in his career, Kuhn, who first described paradigms as incommensurable, reconsidered his position. To use Hassard and Kelemen's (2002) terminology, Kuhn shifted from the protectionist camp to become a pluralist. Kuhn (2000) argued that society may be better positioned to solve complex issues such as poverty and health disparities with theories derived from multiple paradigms. Members of one paradigm can acquire and work with the assumptions of another paradigm, but Kuhn notes that this is an extremely complex task, not for the beginning researcher, and that not all people may be capable of this task. He describes this process as becoming bilingual: "but the process (a paradigm crossing), which permits understanding, produces bilinguals not translators, and bilingualism has a cost that will be particularly important to what follows. The bilingual must always remember within which community discourse is occurring. The use of one taxonomy to make statements to someone who uses the other places communication at risk" (p. 5).

Other scholars are more cautious and believe that paradigms are commensurable, but not in all situations. Denzin and Lincoln (2000), for example, suggest that some paradigms are more commensurable than others. Communication and collaborative research across paradigmatic boundaries is possible when the "paradigms share axiomatic elements that are similar, or that resonate strongly between them" (p. 174). For example, Denzin and Lincoln offer a "cautious yes" to research that bridges interpretive and critical paradigms. But Denzin and Lincoln are less optimistic regarding commensurability between other paradigms, such as functionalism and interpretivism. They argue that "commensurability is an issue only when researchers want to pick and choose among the axioms of positivist [functionalist] and interpretivist paradigms, because the axioms [of those paradigms] are contradictory and mutually exclusive" (p. 174).

The intellectual stumbling block that prevents Denzin and Lincoln (2000), as well as other scholars, from seeing greater opportunities for multi-paradigm inquiry is the dichotomous conceptualization of the paradigmatic assumptions that we discussed earlier. Scholars such as Denzin and Lincoln view these assumptions as dichotomous categories. One must endorse either objectivism or subjectivism; one must view knowledge as untainted by personal values or believe that knowledge and values are inextricably linked; one must adhere to inductive research designs or side with deductive approaches to knowledge creation.

A different view, one held by pluralists, is that these paradigmatic assumptions represent a continuum of beliefs. As Toma (1997) explains:

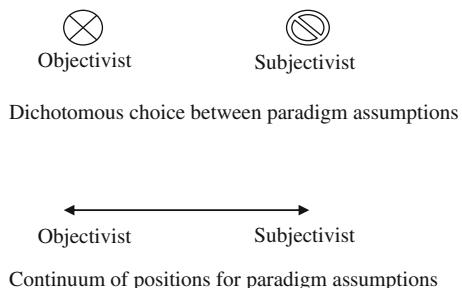
Perhaps some scholars are closer to the boundaries of a paradigm, as conceived in the typology, than others; some may even straddle the lines between paradigms. In other words, paradigms might be thought of as a continuum with the recognition that, even though people fit into different categories, they may occupy different places within them (p. 38).

Obviously, if we view a paradigmatic assumption as a binary variable, then a scholar must necessarily be in one category or the other, thus closing off the possibility for meaningful communication with scholars in the other category. Researchers

in the objectivist camp, for example, would be unable to work with researchers in the subjectivist camp, because their assumptions are viewed as diametrically opposed. In fact, the two choices (objectivist or subjectivist) force either total agreement or diametric opposition.

Yet, we need not view paradigmatic assumptions from a binary perspective. Instead, if we frame paradigmatic assumptions on a continuum, then the boundary between two polarities (such as objectivism and subjectivism) becomes permeable. Scholars could move freely along the continuum, from one standpoint to another, within the same study. Some interpretivist researchers, for example, use both inductive and deductive approaches and do not align themselves with either dichotomous category. Moreover, if the boundaries between paradigmatic assumptions are viewed as permeable, then the potential for collaboration between researchers from different paradigms is enhanced significantly. Figure 7.1 displays the contrast between viewing paradigm assumptions as binary variables and conceptualizing them as continua.

Fig. 7.1 Dichotomous and continuous conceptualizations of paradigm assumptions



Some scholars, of course, will persist in viewing paradigmatic assumptions as binary categories; they will adhere to their “home” paradigm and discount the possibility for meaningful exchange across paradigms. We acknowledge that some researchers have strong paradigm beliefs, and their positions would likely fall at one of the extremes on the paradigm continuum. Our goal, however, is not to convert these researchers to a multi-paradigm position. Scholars can be highly effective and make significant contributions to fields of study even if they never venture beyond their home paradigm. Furthermore, we do not mean to minimize the incommensurability argument that various scholars have raised and which is important for several purposes. First, incommensurability recognizes that paradigms are comprised of internally consistent sets of assumptions that should not be blended or mixed together with those of other paradigms. Incommensurability, therefore, takes a strong stand against a relativism that would replace all paradigms with ad hoc mixtures of assumptions, theories, and methods. This is an argument, not incidentally, with which paradigm pluralists would also agree. Paradigm pluralists suggest that the goal of multi-paradigm inquiry is not to dismantle paradigms, but instead to foster movement between and among them. Second, researchers may not be able to switch easily from one paradigm to another from project to project. The art

and science of multi-paradigm inquiry requires a slow evolution to work across and bridge multiple paradigms. Developing sophisticated analytical and methodological skills within one's "home" paradigm, therefore, may be necessary before a researcher can cross into another paradigm. Thus, we emphasize that the arguments about incommensurability are also important to keep in mind as one attempts to think about and conduct multi-paradigm work.

In spite of its merits, however, the incommensurability argument has often served as a justification for the lack of communication and interaction across paradigms. In contrast, the paradigm pluralists argue that scholars whose positions are closer to the mid-point of the paradigm continuum (rather than the end points) would likely be able to find common frameworks and agreements to guide collaborative research with scholars from a different paradigm. Moreover, it is possible that a particular scholar's position on that continuum may change over time, or may vary depending on the issue or the question that he or she is studying. Thus, viewing paradigmatic assumptions on a continuum, rather than as binary variables, opens many more possibilities for multi-paradigm inquiry. As Lewis and Grimes (1999) note, "paradigms may appear incommensurable at the extremes, yet interwoven at their borders" (p. 679).

Schultz and Hatch (1996), for example, in a study of organizational culture, identified clear connection points between functionalism and interpretivism. They found several similarities in how functionalists and interpretivists have studied organizational culture. For example, "both functionalist and interpretive paradigms frame culture as underlying patterns of assumptions or meanings in the organization that form cultural configurations" (p. 540). Thus, both functionalists and interpretivists view culture as patterns that can be identified in organizational life. According to Schultz and Hatch, a research study that bridges these two paradigms could identify two types of patterns: cultural patterns that represent fixed meanings, which can be generalized and compared across organizations (the patterns that functionalists examine), and cultural patterns that represent emergent, localized meanings that pertain to specific spatial or temporal contexts (the patterns that interpretivists explore).

Martin's (1992) study of organizational culture provides an example of research that uncovers both functionalist and interpretivist patterns. In a study of a large corporation, Martin found a widespread belief that the company was characterized by a "family" culture, which nearly all study participants interpreted as a value system that embraced mutual support, kindness, and fairness. On the other hand, women employees also noted that the "family" culture reinforced masculine and feminine roles within the workplace; they explained that the "family" culture conveyed paternalistic expectations for people to enact "mother" or "father" roles. Thus, Martin's study identified a cultural pattern that could be generalized across the entire organization, but also a pattern that revealed specific, localized meanings associated with that same cultural value. These types of insights could not have been generated if Martin had viewed functionalism and interpretivism as representing binary constellations of assumptions that were incommensurable.

In these debates, we side with the pluralists who argue that communication across paradigms is possible and, in fact, potentially useful for understanding the complexity and variety of higher education organizations. In the field of higher education, organizational issues such as shared governance, leadership, diversity, and change are well suited for multi-paradigm research. These topics represent broad research domains that include multiple, inter-related constructs, which are conceptualized differently by various groups of researchers. As such, these research areas meet the criteria outlined by Lewis and Grimes (1999) for determining whether a topic is appropriate for multi-paradigm analysis.

Our goal in this chapter, therefore, is not to overturn a particular paradigm or assert that all researchers must employ paradigm-crossing analyses. Instead, we aim to delineate the prominent approaches to multi-paradigm inquiry in order to provide models and exemplars for higher education researchers who choose to examine complex and contested organizational dilemmas. We also acknowledge that some researchers may be so committed to certain beliefs that they are unable to become bilingual and work within more than one paradigm. We are not suggesting that researchers will be ineffective working within one paradigm but that there is value in attempting to work in more than one paradigm.

Paradigms in Higher Education Research on Organization and Governance

In a 1974 review of the research literature, Peterson found that the study of organization and governance in higher education was limited in its use of theory. Many studies were descriptive and did not use a theoretical or a conceptual framework. The few studies that did use theory relied primarily on three conceptual models to characterize higher education organizations: bureaucratic, collegial, and political (Baldridge, 1971). Although these models were extraordinarily useful for categorizing organizational behavior in colleges and universities, they were limited in that they neglected to consider interactions between organizations and their external environments, and they focused on formal organizational structures (for example, faculty senates, committees, and boards) to the exclusion of emergent social structures.

Peterson examined the literature again in 1985 and found that the use of theory in the study of higher education organization and governance had expanded dramatically since his 1974 study. Higher education researchers were beginning to conceptualize the effects of external environments through their use of open system models. New theories had also been developed regarding emergent social structures within educational organizations.

The expansion of theory use that occurred during the late 1970s and 1980s is well represented within Birnbaum's (1988) landmark text, *How Colleges Work*. Birnbaum employed an open system, cybernetic model to explain how colleges and universities function as organizations. He also elaborated on the bureaucratic,

collegial, and political models of the earlier era, and added organized anarchy as an additional model for understanding organization and governance.

Despite the growing use of theory in the study of organization and governance, the paradigmatic assumptions of higher education researchers remained quite uniform. Peterson's (1985) review indicated that researchers were using a wider array of organizational theories and models than in previous eras. These theories and models, however, were drawn almost exclusively from the functionalist paradigm. Milam (1991), for example, analyzed the journal literature of the late 1980s and found that 98% of higher education research relied on the functionalist paradigm (assumptions of objective reality and rationality). Thus, while the field of higher education had incorporated a wider array of theories, researchers for the most part were not delving into alternative paradigms. Researchers persisted in developing and using theories that reflected similar sets of assumptions and research practices.

The functionalist paradigm still predominates in studies of higher education organization and governance. In a 2004 review of research on governance, Kezar and Eckel found that researchers were relying on a narrow set of paradigmatic perspectives, which caused them to overemphasize formal structures (a fundamental component of the functionalist paradigm) and neglect important social and cognitive dynamics, such as trust and organizational learning. Nevertheless, since Milam's review in 1991, researchers of higher education organization and governance have begun to conduct an increasing number of studies that represent perspectives from alternative paradigms. Specifically, use of the interpretive paradigm is now widespread. The critical paradigm is being used to inform current debates regarding the intrusion of managerial and corporate values into the higher education governance system, and the influence of postmodernism is growing in studies of diversity and change in higher education organizations. In this section, we briefly review the literature associated with the different paradigms that have been used to study higher education organization and governance: functionalist, interpretive, critical, and postmodern.

Functionalist Research in Higher Education

The majority of research on organization and governance in higher education comes from a functionalist paradigm. Functionalist studies of organization and governance are characterized by several assumptions: (1) structures are significant for understanding processes and outcomes; (2) the main concepts explored relate to structure including lines of authority, centralization versus decentralization, hierarchy, bureaucracy, roles, size, procedures, and bodies responsible for decision making; and (3) rationalism, efficiency, and effectiveness are critical to achieve ideal functioning.

One major outcome of these early debates and research was the 1966 statement on government of colleges and universities formed jointly by the American Association of University Professors, the American Council on Education, and the Association of Governing Boards for Universities and Colleges. The intent of the

statement was to clarify roles in campus governance among the board, president, faculty, and students and illustrate mutual interdependence. Governance structures within this framework were viewed as important for establishing lines of communication, designating authority, and facilitating access to the decision-making process.

While functionalist studies were more prevalent in early organization and governance research, they are still common today. Examples include Kerr's (1963) study of the "multiversity"; Mintzberg's (1979) study of how higher education has a unique organizational structure—the professionalized bureaucracy; Keller's (1983) focus on joint big decision committees; and Schuster, Smith, Corak, and Yamada's (1994) examination of campus-wide strategic governance teams. Some of the key findings include researchers demonstrating the usefulness of subunits (and bureaucratization) such as faculty senates, student governments, or campus councils as ways to distribute decision making effectively in complex organizations (Clark, 1963; Mintzberg, 1979).

The functionalist paradigm suggests that causal links can be determined between certain organizational structures or processes and desired outcomes. Functionalist studies of organization and governance have provided information about which structures and processes impact efficiency (e.g., clarity of task, size of the group), participation (e.g., flexible structures and open communication), and some elements of effectiveness (e.g., composition, reward structures, and accountability). Studies have shown, for example, that larger, more inclusive governance processes often lead to greater feelings of satisfaction and to higher levels of participation from stakeholders (Mortimer & McConnell, 1979). Similarly, Marshall (2007) reported on a linear, rational planning model that enhanced stakeholder participation and strengthened institutional effectiveness in several universities in Great Britain. In another functionalist study, Minor (2008) examined how having more specific criteria for selecting trustees can improve the performance of state higher education systems. Again, the goal of these functionalist studies is for researchers to identify generalizable principles that can guide leaders in the selection and development of organizational structures and processes that are more likely to lead to effective outcomes.

Interpretive Research in Higher Education

While the majority of studies in higher education organization and governance have been conducted within the functionalist paradigm, there is a growing body of research from the interpretive paradigm. In the field of higher education, this has led to the exploration of how organizational structures and processes are shaped by different institutional cultures, histories, and contexts (Hartley, 2003; Neumann, 1995). Interpretivists view localized cultures and contexts as social constructions; therefore, they foreground language, discourse, and communication patterns (metaphors and storytelling) in their analyses of organizations. They attempt to uncover the symbolic significance of organizational rituals, as well as identify the implications

of organizational practices on individuals and groups (Birnbaum, 1992; Kezar, Carducci & Contreras-McGavin, 2006).

Interpretive research on higher education organizations emerged with Cohen and March's (1974) work on governance as an ambiguous process characterized by garbage can decision making.⁷ An interpretivist paradigm maintains the following assumptions: (1) organizations can best be understood through people's interpretations and the ways that people make meaning from organizational processes and practices; (2) the main concepts explored include politics, motivation, culture, symbolism, values, communication, informal deal making, leadership, and beliefs; and (3) there is likely no ideal state of functioning as organizational effectiveness varies based on individuals' perspectives and the context. Policymaking is inherently fraught with interest groups, conflict, and differing values that need to be negotiated. Studies that reflect an interpretive paradigm include Birnbaum's (1991) study of faculty senates as having symbolic importance rather than only fulfilling functional tasks, Neumann's (1995) study of institutional responses to financial difficulty, Kezar's (2004) analysis of how relationships and trust are more important than governance structures, Tierney's (2006) examination of trust and how it impacts governance, and Lee's (1991) research on the impact of institutional culture on decision making.

Birnbaum's (1991) study of academic senates, for example, suggests that senates may be viewed as effective even if they do not achieve their stated goals (the focus of functionalist studies). Senates may provide opportunities for faculty and staff from different parts of the institution to communicate regularly and get to know each other. These social networks, in turn, may enable people to derive satisfaction from collegial relationships at work, or they may unite like-minded individuals who later pursue collaborative projects together. Thus, senates may be ineffective in achieving their stated goals, but still serve purposes that individuals and groups find meaningful and important. Birnbaum's (1991) study also demonstrated how individuals perceive effective governance according to different criteria, which are shaped by their own background and experience; therefore, developing a governance structure or process that everyone will agree is effective is extremely difficult. However, based on the history of the campus or the institutional culture, certain types of operating principles or values related to governance will work better, depending on the specific context.

A key finding from studies within the interpretive paradigm is that good governance varies by institution and campus context. On a small campus, a collegial approach might be the best way to effectively reach decisions, whereas on a larger campus, a more political approach might work best. Birnbaum's book, *How Colleges Work* (1988), aims to describe, rather than prescribe, models of governance, but its core argument suggests that no single model or structure will be helpful for understanding and improving governance. Instead, what works will vary from campus to campus. Similarly, Lee (1991) identified the ways in which

⁷We use the term interpretive, but some authors use the term constructionist.

local context, history, and values often override generalized strategies for improving governance.

In another exemplar, Neumann (1995) examined how colleges respond to difficult financial circumstances. In this study, Neumann offered a critique of the functionalist approach to understanding the impact of financial constraints. In two case studies, she found that objective financial data were less important than socially constructed meanings and understandings attributed to the colleges' resources. On one campus, the communications of the president and senior administrators generated perceptions of anxiety and concern, even though the institution's objective fiscal condition was healthy. In contrast, the president and leadership team at another institution communicated pervasive optimistic values that enabled faculty and staff to transcend objective financial challenges.

Tierney's (2006, 2008) work on governance also reflects interpretive assumptions and has helped to reframe the literature in this direction. Tierney explores how trust is fundamental to people believing that governance is effective and to getting faculty and staff to make needed changes in higher education. He also examines external trust or whether external stakeholders such as state policymakers trust higher education to serve the broader public good. According to Tierney, trust is uniquely interpreted by people based on their backgrounds and histories and is further shaped by the institutional environments in which they are employed. Developing and maintaining trust is difficult and elusive, yet essential for effective governance. Through detailed ethnographic accounts, he demonstrates the ways in which trusting environments can be developed on college campuses, and how the conditions for developing trust are quite different and unique based on institutional culture and history and the backgrounds of the people at the institution. He demonstrates how trust emerges over time through repeated interactions, and so each exchange is important for continuing to build trust that is dynamic but can be lost at any time.

The Critical Paradigm in Higher Education Research

The third paradigm applied to the study of organization and governance is the critical paradigm. Researchers using the critical paradigm question whether decision-making and governance processes are neutral and suggest that they are generally influenced or directed by powerful interests. Power dynamics in organizations tend to keep marginalized groups from effecting changes that would destabilize the status quo. Institutional decision-making practices may invite participation, but only in domains determined by top-level leaders. Thus, faculty and staff may have input on some decisions, but the general strategy and direction of the institution are set by a small group of senior leaders, whose own behaviors may be constrained by the wishes of powerful external stakeholders.

Some researchers within the critical tradition suggest that shared governance is merely a façade that organizational leaders attempt to project in order to create the appearance of having an open, rational process for making decisions. While faculty and staff are preoccupied with trying to make shared governance work, important

decisions get made elsewhere, and these decisions reflect political and financial interests, rather than academic values and priorities.

Slaughter and Rhoades' (2004) study of academic capitalism is an exemplar of the critical paradigm in studies of higher education organization and governance. Academic capitalism refers to efforts by higher education institutions to develop, market, and sell educational and research products as consumer goods in the private marketplace. As a result of this focus on revenue generation, institutions have become more corporate with top-down governance and centralized authority structures. Market-based business approaches, for example, can be seen in the move away from tenure-track faculty lines, which have been replaced by hiring non-tenure-track, contingent faculty lines that are more cost effective and offer budgetary flexibility. This approach to faculty hiring also reshapes power relationships within shared governance systems. Having fewer full-time, tenured faculty on campus reduces the potential power of this group to affect institutional decisions; thus, by default, more and more decisions fall within the purview of managerial control.

Slaughter and Rhoades (2004) also document how institutions have created research and development parks on campus so that faculty and institutions can obtain revenues through patents and licensing of their innovations and scientific discoveries. Previously, researchers had shared their discoveries widely in order to advance the knowledge base within their respective scientific fields. However, since the Bayh-Dole Act of 1980, faculty and their institutions have been able to profit financially from research by using patents to restrict access to their discoveries and then by developing marketable applications that they can sell exclusively.

In a related study, Toma (2007) explains how academic capitalism has also shaped teaching and learning. The emphasis on revenue generation has led to the development of extensive online and continuing education programs. Toma points out that these programs typically do not proceed through standard faculty governance approval processes; their courses and academic programs are not vetted through the curriculum committees of academic departments. Instead, decisions in these areas are made by managers in online, distance education, and continuing education divisions, thus further reducing the influence of faculty in academic decision making.

The use of the critical paradigm in the study of higher education decision making has described how powerful groups forward their interests directly or indirectly through policies that may appear far removed from day-to-day campus practice but that fundamentally alter the nature of faculty work and faculty involvement in governance, and that shift governance toward a corporate model. Pusser (2004), for example, describes the role that political interest groups played in the affirmative action debate in the University of California (UC) system and later in the ballot initiative that ended affirmative action in college admissions in that state. This study challenged the traditional view of higher education organizations as rational and consensus-based institutions that are governed through deliberate processes, not by individual preferences or politics. In particular, Pusser examined the impact of external actors who would not typically be connected to higher education

decision-making processes but who were able to use postsecondary institutions as instruments in a broader political agenda. Specifically, through archival analysis, Pusser demonstrated how the UC regents, who were intended to represent the interests of the public at large, have always been members of elite groups that represent powerful corporations. Pusser also revealed how the fight over affirmative action at UC was tied to the governor's ambition to run for President of the United States. The governor's platform was firmly against affirmative action, and he wanted to demonstrate to voters nationwide that he could put his policies into action. The governor's wishes were conveyed to the UC regents by a long-time friend who was a member of the board. In this case, even though the university president, senior administrators, faculty senates, and campus unions voiced support for affirmative action, the policy was overturned when powerful outside interests captured and controlled the governance process.

In a similar study, Ordorika (2003) demonstrates how politics and power within UNAM—Universidad Nacional Autonoma de Mexico—shape policy and decisions that favor government and outside interests and that contribute to the disempowerment of faculty and staff. Like Pusser, Ordorika describes how decision making at UNAM is dominated by elite's political interests rather than rational and consensus-based processes. Proposals by faculty, staff, and students are often ignored in the governance process. Yet, he also shows how over time, different actors compete for influence and power over the university and that at times more democratic forces (student movements of the 1960s) impact and shape the history of the institution. Ordorika warns that scholars tend to see postsecondary institutions as apolitical, autonomous, and disconnected from the state and external interest groups; this view limits their ability to see the extent to which these external interests hold sway over internal decision-making processes. He also notes that the state, in its interactions with the higher education sector, does not necessarily forward the interests of the common good but instead is more likely to advance a capitalist agenda that supports the priorities of corporations and wealthy individuals.

Postmodernism in Higher Education Research

Finally, researchers who adopt a postmodern perspective focus on the ambiguity, randomness, and fragmentation that they claim are inherent in organizations. They frequently criticize hierarchical governance processes that attempt to impose uniformity and clarity on issues that are far too complex and ambiguous to resolve through standardized processes (Bloland, 1995). Instead, they seek to dismantle hierarchies, critique the status quo, and foster agency and voice for all organizational members (Hirshhorn, 1997).

Tierney (1993), in his book *Building Communities of Difference*, is one of the few scholars to apply postmodernism to the study of organization and governance in higher education. Tierney's study examines ways in which postsecondary institutions can value diverse voices in governance. As Bloland (2005) notes, postmodernism emphasizes the outsider, and postmodern scholars bring new voices

and perspectives to the issues that they study. Tierney asks many questions and raises issues for administrators to consider in relation to governance (as is typical in postmodern studies) such as whether bureaucratic and managerial processes of decision making and strategic planning are appropriate, whether the number of ongoing committees should be reduced in favor of more ad hoc arrangements, and whether institutions can operate with a small number of governance structures that focus more specifically on the central issues that are important to the college community at large. In the end, he argues for a transformative intellectual leadership (rather than bureaucratic leadership and governance) to create a space for dialogue where people can have authentic conversations. He argues that postmodern organizations create fewer hierarchical structures and instead develop arenas of debate for the whole community. He describes 12 qualities that assist in moving toward such a postmodern community; examples include getting campus constituents to learn more about other cultures, creating spaces so that people can discuss painful memories of discrimination and alienation, initiating structures for fostering voice for those who have been marginalized, and developing formative assessment practices.

In a related journal article, Tierney (1992) called into question the consensus-based models of governance, which are often posited as the ideal type of decision-making structure. Tierney argued that institutional efforts to resolve conflict and forge consensus can lead to the marginalization of certain groups and individuals who may no longer feel that they can express opposition to the dominant consensus of the organization. Under such conditions, those at the margins of institutions may feel disenfranchised. As an alternative to the emphasis on consensus, Tierney points toward the “need to develop a leadership style that allows conflict to be heard and honored, that allows differences to be visible and viable” (p. 17).

Bloland (1995, 2005) offered additional critiques of higher education organization and governance from a postmodern perspective. He used Derrida’s (1976) notion of deconstruction to examine critically the hierarchical structures of many colleges and universities. Emerging in the field of literary criticism, deconstruction refers to seeing beyond the literal meaning of text and instead searching for what has been excluded or withheld. Bloland argued that hierarchies legitimize certain forms of academic expression, while excluding other ideas and perspectives. Related reward structures and systems of peer evaluation, such as review processes for journal articles and grant awards, reinforce the values of dominant coalitions within academic disciplines and departments. In order to widen the circle of academic expression, Bloland (1995) called for “harsh questioning of universities and colleges about their reward structures, the purposes and practices in which they are engaged, and the claims of those in positions of power and responsibility to their right of office” (p. 528). Bloland’s goal was to destabilize the dominant status hierarchies within academic disciplines and higher education institutions so that alternative voices and perspectives could be viewed as legitimate contributions to scholarly discourse.

Moving Toward Multi-paradigm Inquiry

In 1991, Milam's analysis of the higher education literature showed that the vast majority of studies were framed exclusively from the functionalist paradigm. Since that time, however, researchers have used the interpretive, critical, and postmodern paradigms to extend understandings of higher education organization and governance. Research in this field has been enriched through the use of each of these paradigmatic traditions. Since 1991, the scope and variety of research questions addressed by scholars of higher education organization and governance has increased dramatically. Nevertheless, the use of new paradigms in the study of higher education organization and governance does not mean that researchers are conducting multi-paradigm analyses by using more than one paradigm in the same study. Instead, higher education researchers tend to conduct their analyses exclusively within one paradigm, either functionalist, interpretive, critical, or postmodern. Even the more sophisticated conceptualizations that combine multiple organizational theories (e.g., Birnbaum, 1988) usually do not link or connect paradigms. Higher education researchers often use multiple theories from within the same paradigmatic tradition (for example, two functionalist theories) but still fail to accrue the benefits of examining a research problem from multiple paradigms.

Many higher education researchers critique an existing paradigm that has been prevalent in the study of a particular topic. They seek to destabilize the dominance of that paradigm and make room for alternative perspectives. For example, Neumann (1995), in her interpretive study of colleges under fiscal stress, leveled criticism at functionalist approaches to understanding the effects of financial difficulty. Similarly, Slaughter and Rhoades (2004), in their analysis of academic capitalism, call into question how functionalist perspectives have contributed to the emphasis on revenue generation and profit-seeking behavior in order to maximize efficiency. And nearly all studies from the postmodern paradigm, including those from Tierney (1993) and Bloland (1995), frame their analyses initially as critiques in opposition to the organizing principles of functionalism.

We applaud this type of paradigm awareness, since it promotes clear understandings of the assumptions that guide research and how those assumptions may produce limited or inaccurate analyses of organizational phenomena. These critiques may also encourage other researchers to consider using alternative paradigms in their own work. Yet it is important to note that these authors still conduct their studies within the parameters of a single paradigm. For example, Neumann's (1995) research questions, data collection strategies, and analytical techniques were squarely within the interpretive tradition, and Slaughter and Rhoades' (2004) academic capitalism analysis operates within the parameters of the critical paradigm.

Thus, we are pleased to note the introduction of new paradigms into this field of research, but we also believe that the field can be further enriched by studies that link more than one paradigm at a time to understand complex phenomena associated with organization and governance. Advances in paradigm use since Milam's 1991 review indicate that the field of higher education may be ready to adopt

multi-paradigm approaches to research on organization and governance. As more researchers begin to explore different paradigms and see the value and insights from these new research perspectives, we want to encourage them to try to link insights from a variety of paradigms to further enhance our understanding of higher education institutions.

Multi-paradigm Inquiry: Analytical and Methodological Techniques

Researchers in the field of organizational theory have developed a range of analytical and methodological techniques that higher education researchers can adopt in order to conduct multi-paradigm inquiries. These multi-paradigm techniques do not reflect an ad hoc, “anything goes” approach to research. Instead, these approaches are intentional and well crafted with specific rationales for using multiple paradigms in the same study. These approaches also differ in important ways from mixed methods research designs, which have become increasingly common in the field of higher education. Mixed methods studies are frequently conducted within a single paradigm. A researcher may use both qualitative and quantitative techniques, but the research questions, data collection assumptions, and analysis procedures may be framed entirely within one paradigm.

In this section, we describe three approaches to multi-paradigm inquiry, which were first delineated by Lewis and Grimes (1999): multi-paradigm reviews, multi-paradigm research, and meta-paradigm theory building. In multi-paradigm reviews, researchers critically assess the literature within a given field of study; they identify the paradigms that have guided previous research, discuss the strengths and limitations of different paradigmatic perspectives on the topic, and point toward bridges between theories from different paradigms. In multi-paradigm research, scholars use more than one paradigm empirically to collect and analyze data related to a particular research question. The research question that they address should meet specific criteria for the use of multiple paradigms; not all research issues are appropriate for such analyses. Finally, in meta-paradigm theory building, researchers develop new theories that span paradigm boundaries. This approach is similar to grounded theory techniques (Strauss & Corbin, 1998), but the researcher is engaged in a specific type of theory building, namely the linkage of different paradigmatic insights, to explain a particular phenomenon of interest. To summarize, Lewis and Grimes (1999) suggest that multi-paradigm inquiry can be conducted in three ways:

Multi-paradigm reviews involve recognition of divides and bridges in existing theory (e.g., characterizing paradigms X and Y), whereas multi-paradigm research involves using paradigm lenses (X and Y) empirically to collect and analyze data and cultivate their diverse representations of organizational phenomena. Lastly, in meta-paradigm theory building, theorists strive to juxtapose and link conflicting paradigm insights (X and Y) within a novel understanding (Z) (p. 673).

These three multi-paradigm approaches can be viewed as sequential steps in a research process. A researcher may first engage in a multi-paradigm review to gain an understanding of the paradigmatic foundations for a particular research topic. Then, the researcher may design his or her own multi-paradigm research study to generate new knowledge about the topic. If the findings lend themselves to theory development, then the researcher may engage in meta-paradigm theory building. Although the techniques have sequential linkages, researchers need not use all of them in the same study. Researchers may decide not to conduct a multi-paradigm review, for example, if the paradigms used to study the topic are already well known. Similarly, not all research questions will lead to the development of new theory; so a scholar may conduct multi-paradigm research, but then not move into meta-paradigm theory building. In the following sections, we discuss each of these multi-paradigm strategies in greater detail and provide examples of each approach from the fields of organizational theory (where there are numerous examples) and higher education (where there are far fewer).

Multi-paradigm Reviews: Bracketing and Bridging Techniques

In multi-paradigm reviews, researchers critically assess a body of literature and seek to identify the paradigms that serve as the foundation for research conducted within a particular field of study. These reviews seek to enhance paradigm awareness within a particular research area, as well as critique the provincialism of fields of study that are dominated by a single paradigm. If researchers become more aware of the paradigms that undergird research within their particular fields of study, then they will better understand the strengths and limitations of various approaches and ultimately make better decisions regarding the selection of paradigms and theories to guide their own research studies.

Multi-paradigm reviews typically employ two complementary techniques: bracketing⁸ and bridging. In bracketing, researchers map the paradigmatic contours of the field of study. They attempt to differentiate the assumptions of various studies and categorize the paradigmatic approaches used by researchers. Bracketing “makes differing assumptions explicit, thereby delineating paradigm distinctions and aiding awareness, use, and critique of alternative perspectives” (Lewis & Grimes, 1999, p. 673).

Bridging is a technique that is often employed after bracketing. In bridging, the researcher will identify transition zones between paradigms. The purpose, here, is to identify commonalities across different approaches to studying the same phenomenon. The bridging strategy highlights paths that researchers can take to venture

⁸Bracketing in this usage is different from how it is used in phenomenology. Bracketing here refers to differentiating studies and categorizing them to better examine differences. In phenomenology, bracketing refers to putting aside one's assumptions so that a person can come to the study of a phenomenon with openness and fewer preconceived notions.

beyond their initial paradigmatic preferences and explore connections to different ontological and epistemological standpoints.

One of the earliest examples of bracketing in higher education research is Chaffee (1985) who questioned the way that the term strategy has been used by college and university leaders. Chaffee argues that “those who refer to strategy generally believe that they are all working with the same mental model” (p. 225); however, people often approach strategy from the perspectives of different paradigms. According to Chaffee, research on strategy can be improved if people become aware of the different mental models of strategy and their underlying paradigm assumptions.

Chaffee describes three models that depict different approaches to strategy. The first model is called linear strategy and is associated with the functionalist paradigm. In the linear strategy model, the planning process is seen as methodical, intentional, and sequential. Top-level leaders develop a strategic plan that consists of organizational goals, which are linked to specific, measurable performance objectives for each unit in the organization. The model assumes that institutional effectiveness will improve if people and groups align their activities with specific organizational goals. In this model, strategy is seen as having a cause-and-effect relationship with decisions, actions, and plans to achieve goals. Leaders are assumed to have considerable capacity to change the organization and follow rational decision-making processes.

The second model that Chaffee describes is called adaptive strategy, which is also based on the functionalist paradigm. Under this model, the organization continually assesses external and internal conditions to modify plans on an ongoing basis. Adaptive strategy is more fluid than is the linear model, as situational contingencies, especially those in the external environment, are taken into account.

The third model she describes is an interpretive approach to strategy. Interpretive strategy reflects many of the assumptions of the interpretive paradigm such as the importance of culture and values for understanding strategy, the role of symbolism in shaping how strategy is interpreted, and the ways in which social cognition and social construction affect strategy. As Chaffee notes, “strategy in the interpretive model might be defined as orienting metaphors or frames of reference to allow the organization and its environment to be understood by organizational stakeholders. On this basis, stakeholders are motivated to believe and to act in ways that are expected to produce favorable results for the organization” (p. 230). She also notes how the interpretive model highlights the political role of strategy in organizations. Interpretive strategy also brings to the forefront the importance of stakeholders throughout the organization and the idea that strategy is not just focused on top management and their concerns, which are usually the focus in functionalist theories.

Chaffee’s interest in understanding more about these different models of strategy emerged in studying campuses that had recovered from significant decline. She noted that campuses that used both the adaptive and interpretive strategy models were more successful than those that used only an adaptive strategy. Leaders combining different approaches increased their success, and Chaffee felt that the same would likely be true for researchers—that they could learn by combining the insights from different paradigms. In concluding her article, Chaffee notes that being

aware of diverse approaches and models of strategy can be helpful and enhance organizational behavior. She notes, “one value with diverse models is that they provide options. In future development of strategy, one might delineate the circumstances under which one model of strategy is more appropriate than the others. However, before such delineation is warranted, the models and their interrelationships require further theoretical attention” (p. 232). To use Lewis and Grimes’ (1999) terminology, the further theoretical work to which Chaffee refers would likely entail the use of the bridging technique, followed by multi-paradigm research.

Chaffee’s (1985) article represents an example of the bracketing technique, but it does not extend into bridging. Specifically, Chaffee brackets the assumptions of different paradigm perspectives regarding strategy, critically examines the strengths and limitations inherent in each, and suggests the utility of using multiple paradigms to guide the strategy formation process. The article does not, however, identify transition zones or bridges between the paradigms.

Kezar et al. (2006), however, are more explicit regarding the identification of bridges between paradigms. They identify several connection points or transition zones between interpretive (social construction), critical, and postmodern paradigms in the study of higher education leadership:

Social constructivists, postmodernists, and critical theorists all question whether predictable and generalizable leadership processes, traits, behaviors, or outcomes can be determined, as they question the notion that human behavior is predictable and regularized. Instead, they all promote a view of leadership as a human process filled with ambiguity and contradiction and driven by values and ethics (p. 26).

As such, ambiguity and contradiction could serve as a connection point or a transition zone in a multi-paradigm study of higher education leadership. Interpretive, critical, and postmodern paradigms would each have unique and potentially complementary insights to contribute regarding the ambiguity and contradiction inherent in leadership processes.

In another example of bridging, Cutright (2001) links postmodern and functionalist perspectives through a chaos theory metaphor for strategic planning. As with postmodernism, chaos theory highlights the fragmentation and discontinuity of human experience, and calls into question the value of rational strategic plans, which are predicated on the future being a predictable, linear extension of the past. Precise, long-term plans become obsolete nearly the moment that they are produced. As Mintzberg (1994) states, the fallacy of strategic planning is that it assumes that “the world is supposed to hold still while a plan is being developed and then stay on the predicted course while that plan is being implemented” (p. 110). Organizational conditions, however, do not remain constant long enough for plans to be realized under the circumstances in which they were developed. On the other hand, the chaos metaphor also suggests that social systems contain within them a series of attractors that keep the system from spiraling out of control. “Attractors are those elements in a system that have drawing or organizing power” (Cutright, 2001, p. 5). Cutright notes that the presence of attractors gives a system the ability to recreate order and pattern, at least temporarily, in spite of pervasive discontinuity and external

turbulence. This ability to reconstitute order and pattern in organizational life is central to the assumptions of the functionalist perspective. Thus, Cutright effectively uses the chaos metaphor as a transition zone or a bridge between postmodern and functionalist perspectives on organizational planning and strategy.

Multi-paradigm Research: Sequential and Parallel Techniques

In addition to multi-paradigm reviews, scholars can conduct original empirical studies using more than one paradigm. In multi-paradigm research, “theorists use multiple paradigms (their respective methods and foci) to collect and analyze data and to cultivate varied representations of a complex phenomenon” (Lewis & Grimes, 1999, p. 675). Scholars have developed two types of multi-paradigm research: sequential and parallel.

In the sequential strategy, researchers begin a study from the perspective of one paradigm and then switch to another paradigm to extend their initial findings.⁹ The sequential strategy allows research findings from one paradigm to inform the research design for a second phase of the study based on different paradigmatic assumptions. The research findings from the first paradigm become inputs to research in a second paradigm; then the findings from the first phase of the research are subject to being recast and revised based on findings from the second phase (Gioia, Donnellon & Sims, 1989).

Sequential research may be especially useful if researchers uncover an unexpected finding or an anomaly that cannot be explained from the original paradigm in which the study was framed. Sutton and Rafaeli (1988), for example, conducted a functionalist study of the relationship between customer service techniques and organizational effectiveness. They expected to find a positive relationship between employees’ display of pleasant emotions and sales in retail stores; instead, they found a negative relationship. In order to make sense of this negative finding, they shifted to the interpretive paradigm in which they developed a new interpretation of sales; rather than viewing sales as a measure of organizational effectiveness, they reframed the concept as a measure of the pace of work and the associated time pressures on sales associates and clerks. Employees in rapidly paced stores with long lines were less likely to display positive emotions than were those in slow-paced stores.

Schultz and Hatch (1996), however, identified a potential limitation in the sequential strategy. They stated that the sequential strategy “allows one paradigm to inform another; however, this influence operates only in one direction. Thus, the sequential strategy constructs the relationship between paradigms as linear and

⁹Some might think that the sequential strategy sounds like mixed methods research. However, most mixed methods research uses different data collection techniques, but within the same paradigm. Therefore, we make a distinction between mixed methods research and multi-paradigm research. Some mixed methods research might use multiple paradigms, but that is not inherent in the technique.

unidirectional, although it can move in either direction” (p. 533). If the sequential strategy operates in a unidirectional pattern, then the research design may privilege one paradigm over the other. In order to counterbalance this tendency, researchers need to reanalyze the data that they collected during the first stage of the research from the standpoint of the paradigm that they used in the second phase of the study. In this case, the research findings from the second phase would lead to a reanalysis and reinterpretation of the findings from the first phase.

The parallel strategy, on the other hand, avoids this potential limitation by applying multiple paradigms simultaneously and with roughly equal emphasis in the study. Martin (1992), for example, developed three separate analyses of one corporation’s culture. The first analysis was based on the functionalist paradigm. The findings of this analysis focused on the integrative properties of organizational culture, including shared values, consensus, and collective action. The second analysis was framed from the interpretive paradigm and highlighted a differentiated culture characterized by values and meanings that were specific to particular groups within the organization. This analysis revealed much more tension and disharmony within the organization than did the first analysis based on functionalism. Finally, the third analysis employed postmodernism and found a fragmented culture that was characterized by high levels of ambiguity and a near-constant state of flux.

Martin then claimed that all three of these analyses represent accurate and valid portraits of that same organization’s culture. Together, the three paradigms present a more comprehensive, complex understanding of the organization than any single paradigm could provide. Martin, therefore, argues that assessments of organizational culture are limited if they use only one paradigm. If researchers use only the functionalist/integration approach, then they will likely privilege the perspectives of top management and overlook marginalized voices in the organization. By focusing on consensus, functionalist researchers would likely downplay the presence and impact of conflict regarding cultural values. In contrast, if researchers use only the interpretive/differentiation approach, then they will deny the possibility that nearly all members of an organization share some tacit understandings about their work together. Different organizational members would likely identify with and support those values to different degrees, but nearly all would acknowledge some common beliefs about the organization. Finally, if researchers use only the postmodern/fragmentation perspective, then they would not see instances in which organizational members transcend power and status differences and unite around common concerns; nor would they assign much importance to the unique value systems that bring coherence and clarity to the work of specific professional groups within an organization (for example, the unique professional values of student affairs practitioners and the specific subcultures of different academic disciplines).

Just as Martin (1992) crossed paradigms in research on organizational culture, other scholars have engaged in multi-paradigm research on organizational structure. Organizational theorists have simultaneously examined structure as object (functionalism) and structure as social process (interpretivism). Related studies have focused on structures and structuring processes in the areas of information

technology (Hussain & Cornelius, 2009), small group decision making (Poole, Seibold & McPhee, 1996), and collaboration and teamwork (Hill, Bartol, Tesluk & Langa, 2009; Perlow, Gittell & Katz, 2004).

Multi-paradigm research is rare in the study of higher education organization and governance. One example of the sequential approach is found in Gioia and Thomas' (1996) study of strategic change in higher education. They applied interpretive assumptions to discover how actors made sense of their experiences in the change process. Then, they switched to a functionalist framework to test potentially generalizable hypotheses that emerged from their initial interpretive work.

Specifically, Gioia and Thomas (1996) found that the relationship between organizational image (perceptions of how others view the organization) and organizational identity (how members perceive their own organization) shaped the strategic change process in a large research university. University leaders aspired toward the image of a “top ten” research university. As this desired image was communicated more frequently across the university, the perceptions that faculty and staff held of the organization (identity) began to change; they began to view their university as more innovative and prestigious. “The working logic was that the desired image would motivate a change in identity that would produce a desire for quality improvement” (p. 382). Gioia and Thomas then decided to shift from the interpretive paradigm to functionalism in order to test empirically relationships among image, identity, and change in a national sample of 372 institutions. The findings confirmed that under conditions of change, perceptions of image and identity, especially desired future image, shape the development and implementation of organizational strategies.

While Gioia and Thomas's (1996) study represents the sequential strategy, Jarzabkowski (2008) used the parallel strategy in a structuration analysis of the relationship between strategy and structure in three universities in Great Britain. The study identified three types of strategizing behaviors by university officials: interactive, procedural, and integrative. First, interactive strategizing involves “direct, face-to-face interaction by top managers to shape how organization members instantiate strategy in their actions” (p. 629). These exchanges were characterized by a give-and-take between senior administrators and faculty leaders on various university committees. Strategy was shaped in formal structures such as committees, but the structuring processes of communication and interaction led to new ideas and perspectives being incorporated into the planning process. Second, procedural strategizing is characterized by “the use of administrative procedures, such as performance indicators, budgets, operating plans, and other administrative systems, to shape strategy” (p. 629). These formal, objective planning systems guided the development of strategy, but Jarzabkowski also noted how the meanings and interpretations assigned by local actors to these planning systems shaped the implementation of strategy at the academic department level. Finally, integrative strategizing refers to “simultaneous direct interaction with organization members about performance monitoring and administrative procedures at the same time as these procedures are being modified, often on the basis of the interactions” (p. 630). Rather than viewing performance measurement systems as static structures,

Jarzabkowski found that senior administrators were modifying these systems as they and faculty began to construct new meanings and interpretations of the value and validity of system outputs and related data reports. Thus, Jarzabkowski uses structuration to provide a parallel analysis of structure as object and structure as process, and then draws connections between both perspectives to create a novel conceptualization of the relationship between strategy and structure.

In another example of multi-paradigm research, Gumpert (1993) sequentially applied interpretive and critical paradigms in her examination of academic program reductions. Gumpert does not describe these paradigmatic assumptions directly; as such, this article represents more of an implicit use of multi-paradigm analysis. Initially, Gumpert used an interpretive lens to focus on the language of five different groups: senior administrators, middle-level administrators such as deans, “star” faculty, contingent faculty, and faculty in programs targeted for reduction. She demonstrated how each group represented a distinct worldview or interpretation of the organization and its financial and academic standing. Then, by shifting to the critical paradigm, she examined how faculty members’ and administrators’ language supported their own interests in resource allocation. The critical paradigm analysis also revealed how university administrators are tied to powerful external interests that support corporate and neoliberal orientations to university operations. Gumpert revealed how this encroachment of outside interests into university decision making created a governance process in which programs were closed not on the basis of quality but more so on issues of power and how the program contributes to the broader political economy (the fields of management and finance over the arts, for example).

Gumpert (1993) also described certain alignments of groups that created coalitions such as executive administrators and faculty research “stars,” as well as full-time faculty in programs targeted for reduction uniting with part-time and adjunct faculty in their collective defense. Her study demonstrates the role of power and how groups that have greater influence can shape decisions that suit their interests. By sequentially applying the interpretive and critical paradigms, Gumpert was able to move away from a dichotomous view of power, which views conflict as a contest between established groups that have clearly defined interests, such as conflict between state legislatures and public campuses or disputes between faculty and administration. Instead, Gumpert’s analysis revealed a lack of a cohesive voice on campus and showed alignments between faculty and administrators, which cut across the expected faculty–administration divide. The use of multiple paradigm perspectives, therefore, helped to illuminate contested views and uncover previously unexamined power alliances.

Meta-paradigm Theory Building

In addition to multi-paradigm reviews and multi-paradigm research, Lewis and Grimes (1999) encourage scholars to engage in meta-paradigm theory building. Researchers can develop meta-paradigm theories that accommodate diverse,

conflicting perspectives about a phenomenon of interest. Gareth Morgan (1983), for example, was among the first organizational researchers to suggest that scholars should build theories that are flexible enough to accommodate opposing views across paradigms. This type of accommodation, however, should not be viewed as a unification of multiple paradigms, nor should it be interpreted as an “anything goes” relativism. Instead, this approach suggests the potential for building theories that “comprehend paradigmatic differences, similarities, and interrelationships” (Lewis & Grimes, 1999, p. 675).

Lewis and Grimes (1999) outline a three-step process for meta-paradigm theory building. An initial step in developing meta-paradigm theory is the exploration of meta-conjectures, which are propositions about the phenomenon of interest that are interpretable from multiple paradigms. Second, researchers will juxtapose different paradigmatic explanations of the phenomenon of interest. Finally, they will develop a theoretical reference system that links contrasting representations of that phenomenon.

Lewis and Grimes (1999) indicate that meta-paradigm theory building occurs after the researcher has completed groundwork, data collection, and an initial round of coding and data analysis. As such, they recommend that researchers should first conduct a multi-paradigm review of the literature related to their phenomenon of interest and then engage in multi-paradigm research, to collect and analyze data from different paradigm standpoints. Meta-paradigm theory building, therefore, is a final phase of the research process, but not all multi-paradigm research will lend itself to the development of new theory. Rather than developing a new theory that transcends paradigm differences, researchers may want to hold the separate paradigm accounts as independent, equally valid explanations of a particular social phenomenon. For example, Martin (1992) did not attempt to develop meta-paradigm theory from her study of organizational culture; instead, she saw value in allowing the three perspectives on culture (integration, differentiation, and fragmentation) to operate as independent (yet complementary) explanations.

Schultz and Hatch (1996) describe a specific technique, interplay, which can be used in meta-paradigm theory building. They argue that the juxtaposition of different paradigmatic explanations of the same phenomenon will reveal a paradox: a point that represents both opposition and connection. According to Schultz and Hatch, the goal of this type of theory building is to preserve the paradox in the resulting explanation, rather than attempting to resolve it in one direction or the other.

Interplay “refers to the simultaneous recognition of both contrasts and connections between paradigms” (Schultz & Hatch, 1996, p. 534). By encouraging researchers to explore both connections and contrasts, interplay promotes a different way to conceptualize paradoxical tensions across paradigms. This technique preserves the interdependent relationship between oppositions, as the researcher “moves back and forth between paradigms so that multiple views are held in tension” (p. 535).

Using interplay as an analytical technique, Schultz and Hatch (1996) develop a new, meta-paradigm theory of organizational culture, which preserves the

paradoxical tensions between functionalist and interpretive perspectives. They posit that organizational culture can be analyzed and understood through the interplay of generality/contextuality, clarity/ambiguity, and stability/instability. Other organizational theorists have engaged in research to develop meta-paradigm theories of power (Gaventa, 1980), rationality (Clegg, 1990), and structure (Reed, 1997).

Meta-paradigm theory building encourages researchers to think beyond particular paradigms and consider how concepts can be interpretable from multiple standpoints (Schultz & Hatch, 1996). New theoretical insights are created, which transcend the initial “starting points” of the respective paradigms. The new theoretical reference system maintains a tension between paradoxical assumptions regarding epistemology or ontology. For example, how can leadership *both* fulfill important organizational functions (functionalist ontological assumption) *and* constitute a cultural construct that is unique to a particular context (interpretivist ontological assumption)?

Examples of meta-paradigm theory building in higher education research are rare (see Table 7.1). Our literature review identified only one exemplar in higher education research on organization and governance, a study by Tierney (1993) on diversity and governance. Tierney builds connection points between the postmodern and critical paradigms to examine which voices are included and which are excluded in campus governance. Tierney weaves together assumptions from both paradigms; as a result, he “sees individuals as both object and subject in history, and locates action within a socio-historical realm that gets acted out on a cultural terrain that is contested, redefined, and resisted. People are neither passive objects incapable of resistance nor the unconstrained individuals able to determine their own histories” (p. 28). Tierney acknowledges that many researchers might find problematic the linkage of paradigms that have some inconsistent assumptions. For example, critical theorists believe in an objective reality, whereas postmodernists clearly reject this claim. Tierney, however, argues that efforts to bridge critical and postmodern paradigms can lead to the development of wholly different theories to frame concepts around diversity and governance.

Tierney then uses the tensions and contradictions between the postmodern and critical paradigms as the locus for meta-paradigm theory building. He identifies five paradoxical tensions between critical theory and postmodernism: boundaries/

Table 7.1 Higher education organization and governance research: selected multi-paradigm exemplars

<i>Multi-paradigm reviews</i>	
Bracketing	Chaffee (1985)
Bridging	Kezar et al. (2006), Cutright (2001)
<i>Multi-paradigm research</i>	
Sequential	Gioia and Thomas (1996), Gumpert (1993)
Parallel	Jarzabkowski (2008)
<i>Meta-paradigm theory building</i>	
Interplay	Tierney (1993)

border zones, individual constraints/pluralist possibilities, political/apolitical, hope/nihilism, and difference/agape. He then seeks to reconcile these paradoxical positions in a new theory of governance.

To illustrate Tierney's theory, we focus on his analysis of one of the paradoxical tensions, boundaries/border zones. Tierney notes how postmodernism suggests that differences across groups create an inability to understand one another. He points out that critical theorists often too easily believe that dialogue will help reconcile such differences. By linking the two paradigms, Tierney comes up with a new way to examine the issue of boundaries/border zones: "I develop educational proposals in which norms are decentered and difference becomes an organizing concept. I assume the critical demand for struggle and the postmodern belief in the power of the norm. I disagree with some postmodernist assertions that spanning border zones is impossible, and I extend critical theory's notion about understanding differences" (p. 11). Thus, Tierney argues that governance systems can be organized to promote difference; the role of dialogue (a central component of the critical perspective) shifts from reconciling differences to promoting voice for distinct groups (a central feature of postmodernism). This new theory provides an interwoven analysis of constructs from two paradigms. The key constructs (dialogue, difference, and boundary) operate at a meta-paradigm level in that they are interpretable from different paradigms, but the theory conceptualizes these features in ways that transcend either the critical or the postmodern perspectives. Tierney's theory on dialogue across boundaries and borders is not what a critical theorist would argue, nor what a postmodernist would assert; yet, the separate perspectives of the critical and postmodern paradigms allowed Tierney to weave together insights on diversity, dialogue, and governance in a unique theoretical framework.

Charting the Course for Multi-paradigm Inquiry in Higher Education

In order to encourage more extensive use of multi-paradigm inquiry in the study of higher education organization and governance, we offer a brief multi-paradigm review of related literature and suggest future directions for multi-paradigm research and meta-paradigm theory building. We focus the paradigm comparison on the functionalist and interpretive perspectives, because these two paradigms have guided most of the higher education research on organization and governance and because scholars have raised the most significant concerns about commensurability between these two approaches (Lincoln & Guba, 1994). The functionalist and interpretive paradigms, however, also have some key linkage points in how they conceptualize effective governance. Both vantage points suggest that governance is effective when organizational decisions produce actions and outcomes that advance the institution's mission. They differ in important ways, of course, in how they conceptualize governance structures and processes, but neither paradigm holds a more radical definition of effective governance as the emancipation of marginalized groups, as would a critical theorist. Nor does either paradigm suggest that governance systems

are mere façades that obfuscate power relations, as would a postmodernist. Hence, there are points of connection between functionalism and interpretivism that could prove useful in multi-paradigm analysis.

As an initial component of our review, we will bracket the assumptions of functionalism and interpretivism regarding governance. Then, we will bridge the paradigms by focusing on the importance that both paradigms place on the concept of governance consultation.

Multi-paradigm Reviews: Bracketing Functionalist and Interpretive Research on Governance

Within functionalist studies, several conditions have been identified as critical to effective governance, including clarification of roles, reward structures, consultation and joint formulation of procedures, and accountability. Clarifying roles and governance processes was found to be related to effectiveness; governance processes without a charge, guidelines, focus, or priorities typically failed compared to those with clarity about purpose and role (Berdahl, 1991; Mortimer & McConnell, 1979; Schuster et al., 1994). Lack of rewards for participation in governance shapes both effectiveness (not attracting strong people to these roles on campus) and efficiency, in terms of people making governance a low priority (Dill & Helm, 1988; Gilmour, 1991; Mortimer & McConnell, 1979). Able faculty are not attracted to participate in governance because of promotion and tenure standards that de-emphasize service on most campuses (Gilmour, 1991).

A carefully constructed consultation process for involvement of faculty has been tested and established (Dill & Helm, 1988). Consultation processes increase the institutional knowledge applied to governance and may foster a sense of ownership that can facilitate the implementation of related initiatives and plans (Mortimer & McConnell, 1979). The major components of the consultation process include early input, joint formulation of procedures, adequate time to formulate responses, availability of information, adequate feedback, and communication of decisions (Dill & Helm, 1988). Several studies confirm that carefully mapping the process to ensure consultation, adequate timing, and reliable information is the best way to guarantee an effective process. The importance of developing consultative processes is also confirmed by studies that illustrate that governance processes have been brought to a halt when feedback is not followed and when advisory capacity is not clear (Lee, 1991; Schuster et al., 1994).

In contrast, studies from an interpretive perspective highlight the role of human interaction and meaning, and identify the importance of trust, norms, and values, and the composition of the governance groups to effectiveness (Tierney, 2004, 2006). Interpretive studies suggest that effectiveness is related to at least some degree of inefficiency or at least a level of redundancy in function (Birnbaum, 1991)—a claim that counters assumptions from functionalism. Although organizations may initially appear less efficient in decision making, they are actually more efficient because decisions that are made in a decentralized and redundant approach are

implemented more quickly and with greater ownership and understanding (Argyris, 1994; Senge, 1990). Informal communication that provides opportunities to process information, to distill better ideas, and to disseminate emerging ideas to key constituents is demonstrated to be just as important as formal governance structures (Lee, 1991). Therefore, formal hierarchical processes cannot be depended on alone: informal interaction outside the hierarchy is also needed to foster effective governance.

Interpretive studies have found that group composition is related to effectiveness. Having expertise within the group on the issues involved in the governance process improves decisions (Dill & Helm, 1988). The studies that examine the perspectives and experiences of individuals involved in governance determined that the joint framing of issues and agendas between those in positions of authority—boards and presidents—and those with delegated authority—faculty and administrators—leads to greater effectiveness (Lee, 1991). Effectiveness is heavily related to trust or a sense of accountability that the board listens to the faculty senate or whatever governance bodies exist on campus (Tierney, 2006). Eckel's (2000) work on the role of governance in program reduction identified norms and values as key to effectiveness. Agreement on expectations and values and adherence to operating norms are more important than creation of a particular type of decision-making structure, even with difficult decisions such as closing academic departments.

Studies in the interpretive paradigm also confirm that relationships between and among groups are a major prerequisite for fostering effectiveness (Kezar, 2004; Tierney, 2006). One study confirmed that the interpersonal dynamics between the president and senate chair were instrumental in success or failure (Lee, 1991). Interpretive studies suggest that interpersonal dynamics, group process, group motivation, and composition of committee membership are among the most significant issues that campuses should consider in efforts to improve governance. Based on these findings, some researchers have begun to emphasize the need for leadership development among senate chairs and other key positions rather than restructuring, which has been the most popular solution to improve governance over the past 40 years (Kezar, 2004; Lee, 1991).

An important step in bracketing different paradigmatic assumptions is engaging in critique of each paradigm's prominent research findings from the vantage point of the other paradigm(s). A functionalist critique of interpretivism would note that if effectiveness varies by institutional situation and culture, then there is no guidance that interpretivists can give to campus leaders to inform how they can organize governance systems. The dependence on human relationships and individual leaders places governance in a precarious position of ambiguity where it is constantly changing as a result of leadership turnover. In addition, power and politics might begin to overwhelm the process, and effectiveness would be compromised.

Interpretive researchers would point out that no ideal structure or arrangement has been identified that can be related to effective governance. They would also describe how structures have not been shown to be very significant when it comes to effectiveness, and the dynamics between people such as relationships and trust are much more important for understanding how people make decisions and agreements

within organizations. They would argue that there is no “reality” of structures, that people interpret whether a structure is fair, trustworthy, or accountable, and that there is no objective way to structure such relationships.

Multi-paradigm Reviews: Bridging Functionalist and Interpretive Research on Governance

Since both functionalist and interpretive studies have examined the relationship between consultation and effectiveness, this intersection could serve as an important transition zone for bridging the two paradigms. In this section, we use structuration theory to bridge functionalist and interpretive perspectives on the importance of governance consultation. In terms of governance, structuration theory posits that there are mutually shaping effects between governance structures (for example, committees and task forces) and the structuring processes of governance. An understanding of these mutually shaping effects would generate a more complex, multi-faceted understanding of governance structures and related concepts such as consultation. We can consider the question of why consultative structures have been associated with effective governance. Functional research shows that faculty and staff involvement through committees, senates, teams, and task forces facilitates more comprehensive analysis of problems, better decision making, and stronger support for implementation (Mortimer & McConnell, 1979; Schuster et al., 1994). Thus, consultation contributes to more effective governance through its effects on problem analysis, decision making, and implementation.

From a contrasting interpretive perspective, consultative structures also provide venues for communication and sensemaking, processes that can generate shared frames of reference for guiding future behavior (Weick, 1995). Shared frames of reference, in turn, may facilitate improved communication flow and the development of more useful and reliable feedback—both of which have been shown in functionalist research to be associated with higher levels of effectiveness (Dill & Helm, 1988). Communication flow may be improved because a common frame of reference minimizes the potential for misunderstandings; people utilize a mutually understood language for discussing issues and problems. Moreover, the social processes associated with collective sensemaking provide a common set of experiences upon which people can continually draw in order to sustain an ongoing dialogue (Bormann, 1996). Governance participants share a history together and can draw upon shared memories, stories, and symbolic understandings (Tierney, 2006). In such a context, information and feedback may be supplied more readily, and conveyed in ways that maximize their usefulness.

From a functionalist perspective, freely flowing communication and feedback strengthen governance effectiveness because they improve decision making. But from an interpretive perspective, information and feedback also help organizational members assess the effectiveness of their actions. The assessment of effectiveness can be viewed as a process through which organizational members begin to focus attention on what they collectively view as important. As a group, they identify

shared commitments which serve to justify prior actions and to rationalize decisions on future courses of action (Staw, 1980; Weick, 1995). A shared commitment toward social justice, for example, may justify actions and decisions associated with enhancing a service-learning curriculum or in allocating more institutional funds to need-based financial aid. The shared commitment justifies the action/decision, and provides a ready-made rationale for explaining why the action/decision was effective. For example, a committee member could claim that the action/decision was effective, because it addressed a shared commitment of the group. When these commitments are held in common across an organization and are also shared by external constituents, then the group's self-assessment of effectiveness is likely to be accepted by others as valid. These collectively held perceptions of effectiveness may then stimulate a strong desire among the group members to continue to engage in these activities (for example, sustain the work of a committee), thus reinforcing the perceived effectiveness of prior practices (Bormann, 1996).

This example of multi-paradigm bridging (see Fig. 7.2) weaves together insights from functionalist and interpretive paradigms regarding consultation that if confirmed through subsequent research would provide a more complex understanding of how consultation relates to governance effectiveness. The functionalist notion that consultative structures contribute to effective governance is interwoven with the interpretivist conceptualization of consultation as a means for collective sensemaking about effectiveness. According to this analysis, institutions that create the kinds of governance structures recommended by functionalist researchers are also putting into place social processes that facilitate the identification of shared commitments and the construction of commonly agreed upon rationales for future practices.

Multi-paradigm Research on Governance: Sequential and Parallel Techniques

In this section, we identify promising areas for multi-paradigm research on higher education organization and governance. Again, we start with a focal point between functionalism and interpretivism regarding effectiveness. Both paradigms point toward the importance of actor roles in the governance process; functionalist research suggests the need for role clarity in order to avoid task overlap and conflicts over who has authority to decide. Role clarity is also important from the interpretive paradigm, since it contributes to trust and respect for the norms and values of different stakeholder groups; ambiguous roles would make it more difficult to recognize and acknowledge the unique perspectives and interests of faculty, staff, and other stakeholder groups.

In order to better understand how governance processes can be more effective, a researcher might design a sequential study that examines the issue of clarification of roles. Governance committees' purposes are often ambiguous even though they may have a formal charge. So, what constitutes clarification? An interpretive study could be designed initially that asked participants at case sites about their experiences and

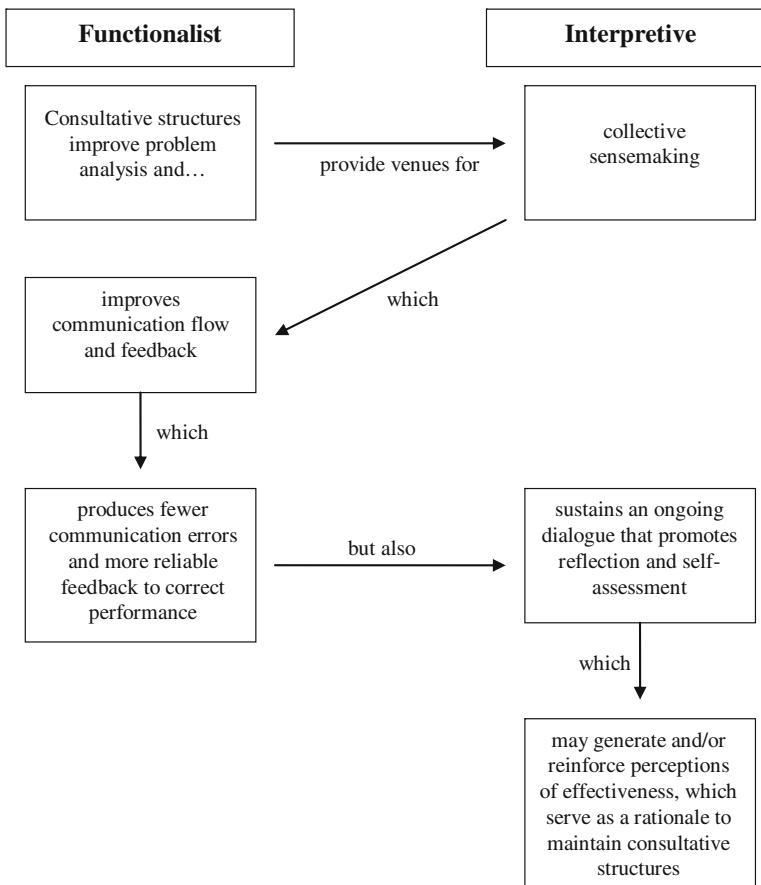


Fig. 7.2 Structuration of governance consultation

meaning-making processes around clarifying the roles of a committee on which they have served. The results of this research could then be used to inform a functionalist study, in which the researcher develops a survey with items that emerged about clarifying roles and purposes (at present, surveys merely have questions that ask for responses to global items such as “do you feel the role of the committee was clear”). Survey data could also be used to test relationships between governance role clarity and measures of effectiveness.

Alternative perspectives on role clarity and effectiveness could be explored in a parallel study in which competing (yet complementary) narratives are provided. The first narrative may focus on the views of functionalists and interpretivists regarding the contributions of role clarity to effective governance. On the other hand, a narrative could be constructed from a critical paradigm that examined why the roles of committees are often left open and ambiguous. Who benefits from committees that cannot focus their work well? Is there intentionality behind this practice? Are there

parties that do not want faculty and staff to be effective in governance? Another narrative from a postmodern perspective could question the ability or the utility of fully clarifying roles. Situations are always changing, so clarity may not be the right focus. Instead, postmodernists would likely turn the question on its head; they would re-imagine the focus to be on interrogating ways that flexibility can enhance effectiveness. Perhaps, people switching and rotating roles frequently would be more effective than clarifying those roles. Postmodernists would interrogate the assumptions and focus on the potential for capitalizing on the chaos and ambiguity that are often present in organizational processes. These multiple narratives together would help develop a different picture of role clarification than presently exists, a much richer one as well.

Another area within governance that can be examined across paradigms is the issue of leadership. Both the functionalist and interpretive paradigms indicate that leadership is important for effective governance. Because both paradigms examine this concept, this again represents an important area for multi-paradigm research. One question might be: Do particular efforts at leadership development and training enhance governance? If so, which ones and why? A sequential study could initially examine this question through the functionalist paradigm. For example, a study might examine current programs to develop leadership within faculty senates, focusing on the content, the approach, or the model used. Individuals who have participated in such programs could be surveyed related to the components of the program as well as the perceived outcomes. The study might examine several institutions and determine if certain programs are related to outcomes that appear to improve leadership among faculty senates. Then from an interpretive perspective, the researchers might interview individuals who have participated in a variety of training programs and ask them what the experience meant to them and how it has changed their perspectives on governance. The study could identify which elements of the institutional context and culture might be affecting the ways in which people experience the training program.

This sequential study would enhance understandings of the relationship between leadership preparation and effective governance. Again, however, a parallel study may be needed to uncover additional divergent perspectives regarding leadership and governance. A parallel study could highlight perspectives on leadership training that differ from the dominant functionalist approach. From a critical perspective, one might question the assumption that a short training program could provide the kind of reflection and insight needed to develop leaders for faculty senates. The assumptions of the training programs themselves could be critiqued by asking whether their content and approaches reflect a managerial or a corporate ideology, which seeks to make faculty think and act more like administrators. Perhaps governance training programs weaken faculty senates by making the views of faculty leaders more homogeneous with administration. In addition, a postmodern narrative may seek to identify leadership, not among formal faculty senate leaders but in the margins of higher education organizations. This type of narrative might examine leaders outside the power structure who better exemplify faculty leadership and how it is developed, thus challenging current perspectives of faculty leaders as being those within the

formal hierarchy. Again, the multiple narratives provided by a parallel study offer a more comprehensive analysis than relying solely on one paradigm to explore the training and preparation of governance leaders.

Meta-paradigm Theory Building

In meta-paradigm theory building, researchers engage in interplay between paradigms and develop frameworks that incorporate both the oppositions and linkages inherent in paradox. One of the underlying tensions in governance relates to leadership—whether there is “one best way” to lead or if the approach is dependent on the context. Researchers holding a functionalist perspective typically posit an essentialist view of leadership and believe that there are universal traits, behaviors, or power and influence strategies that can be used effectively in a variety of situations (Bensimon, Neumann & Birnbaum, 1989, and Kezar et al., 2006 provide summaries of researchers holding essentialist views). They search to find the ideal or essential characteristics or traits of leaders. The essentialist ontological stance can be seen in trait, behavioral, power and influence, transformational, and contingency theories of leadership. Essentialism is the belief that idealized forms exist but that we as imperfect human beings observe and obscure reality and that if we can get beyond our misperceptions we can see the idealized qualities underneath. Researchers strive to direct their research toward invisible essences that lie beneath the surface of our observation.

Transformational leadership is one of the quintessential essentialist leadership theories developed from a functionalist perspective (Bass, 1985; Burns, 1978). Transformational leadership is an ideal type in which leaders use four strategies (idealized influence, intellectual stimulation, motivation, and individualized consideration) to cultivate followers’ higher needs and engage the full person of the follower. Another example of the one best way to lead is servant leadership. The qualities of the servant leader are considered to transcend context, organization, and historical time period. A servant leader is goal oriented, listens to and understands others, pays attention to language and meaning, engages in imagination and reflection, expresses empathy, practices foresight, and uses persuasion and conceptualizing (Greenleaf, 1977).

The attraction of essentialist theories is that they provide specific advice to governance leaders by identifying essential characteristics of leadership that can be used regardless of context. These theories identify enduring contextual issues or situational types to match leader personality and preferences. The results are tangible and usable. The problem with these approaches is that they tend not to hold up to empirical analysis. Perhaps the way that essentialist/universal qualities are defined or conceptualized (separate from context) makes it difficult to document their effectiveness.

In contrast, interpretive researchers tend to see leadership as a non-essentialist concept that is impacted by the context, culture, psychology, history, and subjectivity of the individuals involved. According to interpretivists, reality is a

social and cultural construction, not an idealized form beyond our immediate perception. Researchers that hold a non-essentialist perspective tend to use cognitive and cultural theories of leadership. Researchers using these theories identify different conditions that affect leadership such as cultural difference (for example, that different countries value different traits or power and influence strategies), social differences (for example, race and gender), different psychological orientations (for example, different types of intelligence or cognitive orientations of leaders), organizational differences (a different organizational context requires different leadership), and historical differences (for example, that different approaches to leadership were required in the 1960s than are required now).

Interpretivists contend that leaders examine situations through one or more cognitive orientations but that they should be flexible in understanding and responding to events, situations, and contexts around them that are constantly shifting and changing (Bensimon & Neumann, 1993). This non-essentialist view claims that there are no enduring qualities of leadership to which governance leaders can cling. We cannot come to an understanding of mental traits, behaviors, power and influence strategies, or even cognitive orientations that are the essence of leadership. Instead leaders must constantly relearn, and leadership is more artistry, not exact or precise. Another major example of the interpretive paradigm is the cross-cultural perspective (Hofstede, 1980), which demonstrates that leadership is defined uniquely by Eastern cultures (collective, holistic, and spiritually based) and Western cultures (hierarchical, authority based, and individualistic).

While essentialist views of leadership are heralded for providing usable and practical advice for governance leaders, non-essentialist perspectives have been applauded for addressing the missing elements of context, culture, and social dynamics in the study of leadership. However, non-essentialist studies in the interpretive paradigm have been critiqued for sending leaders off on a wild goose chase to understand cultural and social differences, psychological orientations, and situational and historical elements that can become an all-consuming process. The level of cognitive complexity required to attend to all these elements of context may not be realistic for most people. The relative significance of attention to contextual and social elements compared to the importance of enduring qualities is largely unknown and not a focus of study, because the results of the research in these two paradigms have remained trapped in separate camps, which precludes interplay between findings.

This is where the notion of interplay and meta-paradigm theory building can be important. Right now leaders are left with contrary and confusing advice—focus on enduring qualities or be consumed with context. By engaging in a dialectical interplay between functionalist and interpretive views of leadership (essentialism and non-essentialism), we can arrive at a third position that uses insights from both paradigms, without compromising the integrity of either paradigm. The tension between essentialism and non-essentialism becomes the focus of theory building. Currently, this is conceptualized by many as a point of incommensurability between the two paradigms, and an area where we are simply deadlocked and no theory can move us past. But a third way that connects insights from both can be derived.

We can focus on the subjective and the objective simultaneously. How might leadership be seen as having regularities but also as constantly in flux? Within the concept of interplay, this would mean both that it is not possible to speak about leadership outside a context and that it is not possible to speak about leadership events and relationships without reference to enduring patterns or characteristics. Let us take the example of transformational leadership, which is based on a set of universal principles. Using the notion of interplay, we can ask: Are there certain enduring characteristics relative to a culture or expressed uniquely in different cultures? Does transformational leadership depend on the culture of the followers? While every culture might believe in the importance of individualized consideration, they may find ways to apply it slightly differently. This point of tension then becomes an active location for future exploration and theory building about leadership. This particular line of inquiry would not emerge, however, unless the tension and interplay between the two paradigms was engaged.

Practical Considerations and Challenges for Multi-paradigm Inquiry

Practical Considerations

In this section, we describe some practical considerations that should be taken into account before researchers begin to engage in multi-paradigm inquiry. We offer recommendations that correspond with the typical stages of a research study, beginning with issues of research design and continuing with aspects of data collection and analysis (Fig. 7.3). Multi-paradigm inquiry generally follows these stages, although researchers often cycle back to earlier stages, such as when initial findings from different paradigms suggest the need to reframe the study's research questions.

First, the characteristics of the research topic should determine whether researchers decide to engage in multi-paradigm inquiry. Not all research areas are well suited for this form of analysis. For example, if a researcher seeks to identify the best structure for implementing technology change on campus, then he or she would be locating the research question squarely within the functionalist paradigm; the focus on best practices in technology is consistent with the functionalist assumption that organizational behaviors can be shaped and controlled by managerial directives and initiatives. This type of research question is not framed in ways that invite multi-paradigm inquiry. A more expansive research question, such as “how does technology shape strategy and structure in higher education institutions,” would be interpretable from multiple paradigms. Scholars can use criteria such as those offered by Lewis and Grimes (1999) for determining whether a research topic is appropriate for multi-paradigm inquiry. If the topic is expansive and multi-faceted, and researchers hold divergent perspectives on related phenomena, then multi-paradigm inquiry may be justified. Broad conceptual domains, such

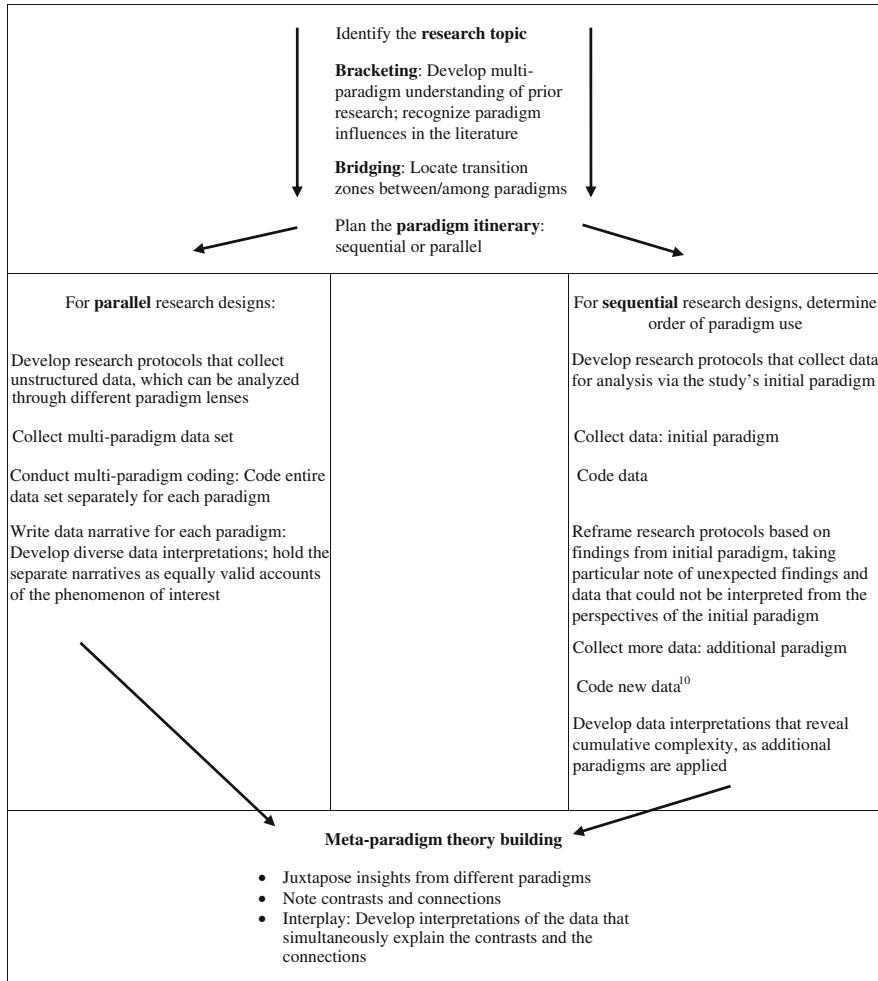


Fig. 7.3 Methodological techniques for multi-paradigm research and meta-paradigm theory building

as culture, structure, change, diversity, power, and leadership, certainly fit those criteria.

Second, researchers should have a specific plan for using each paradigm that they select for the study. Bracketing and bridging techniques may help the researcher identify a clear rationale for selecting paradigms for a particular study. Bracketing helps the researcher recognize the influence of different paradigms in prior research on the topic, while bridging assists in the identification of transition zones that can foster connections between paradigms.

¹⁰If using a sequence that includes more than two paradigms, then repeat the steps, beginning with reframing research protocols, collecting more data, and then coding the new data.

Frequently, bracketing and bridging will set the stage for original empirical research. At this point, researchers will need to determine whether they plan to engage in parallel or sequential studies. If the goal is to develop multiple interpretations of the same phenomenon, then a parallel research design would be the appropriate choice. The parallel research design will yield a separate set of findings for each paradigm, and each set of findings will stand as an equally valid account of the phenomenon of interest. This approach may be particularly important in fields where one paradigm has been dominant, and the researcher seeks to uncover alternative perspectives (Schultz & Hatch, 1996). On the other hand, if the objective is to develop a new integrative interpretation of a phenomenon, then a sequential design would be justified. The sequential design leads to a single interpretation of the phenomenon, but this interpretation becomes progressively more extensive and comprehensive as multiple paradigms are applied in a predetermined sequence.

Third, researchers need to develop protocols and data analysis techniques that adhere to the methodological standpoints associated with each paradigm used in the study. Multi-paradigm inquiry should not be equated with an “anything goes” mixing of different methodological traditions. Instead, the research practices associated with each paradigm need to be applied with an appropriate degree of fidelity. In a sequential study, the researcher will first adhere to the accepted conventions of the initial paradigm and then shift to use the research practices associated with the subsequent paradigm. Gioia and Thomas (1996), for example, began their inquiry of strategic planning in the interpretive paradigm and used inductive, grounded theory approaches to uncover emergent themes. Then, when Gioia and Thomas shifted to the functionalist paradigm, they tested the validity of generalizable principles that they derived from their earlier interpretive analysis. At each stage of the study, the researchers adhered to the research conventions associated with whichever paradigm they were using. Similarly, in studies that use the parallel strategy, researchers will code the entire data set independently for each paradigm and then develop a separate set of findings using the data analysis procedures that are associated with each respective paradigm. Martin (1992), for example, collected a large data set on corporate culture and then coded and analyzed those data three times to develop separate analyses for functionalist, interpretive, and postmodern paradigms.

Finally, researchers need to avoid the temptation of using their findings to conclude that one paradigm is “correct” or that others are less accurate in their explanations of the phenomenon of interest. The goal of multi-paradigm inquiry is not to evaluate the relative effectiveness of each paradigm. Instead, the purpose is to deepen understandings of phenomena by highlighting and theorizing connections and contrasts among equally valid findings generated from different paradigm standpoints. Meta-paradigm theory building may be particularly useful in framing these types of connections and contrasts between paradigms. Researchers can build new theory from the findings of parallel or sequential studies. Meta-paradigm theory building, however, is a complex process, and here, we can provide only a brief overview of the techniques (for a more extensive discussion, see Lewis & Grimes, 1999 and Schultz & Hatch, 1996).

Researchers often begin the theory-building process by re-examining data from a previous parallel or sequential study. First, they juxtapose the insights and findings

from different paradigms. A researcher might develop a matrix that displays the different paradigm insights side by side. The matrix could include a column for each paradigm, and the rows could represent themes or concepts, which point toward similarities and differences across the paradigms. As a next step, researchers could engage in the process of interplay in which they attempt to develop an explanation of the data that simultaneously explains both the connections and the contrasts. In order to explain both connections and contrasts, researchers will need to build an analysis that emphasizes the “interdependence of opposed elements” (Schultz & Hatch, 1996, p. 530).

Ambiguity and clarity, for instance, can be conceptualized as interdependent oppositions. Schultz and Hatch (1996) argue that we can identify organizational clarity only when we have an understanding of what ambiguity looks like within a particular organizational setting. Likewise, ambiguity can be understood only in comparison to elements of organizational clarity. In this example, the interplay between ambiguity and clarity can lead to the development of a new theory regarding the study’s phenomenon of interest. In the case of higher education research, a theory of the interplay between ambiguity and clarity could explain why a particular governance structure (such as a faculty senate) is able to provide clarity for some issues but generates ambiguity in other decision-making domains. This abbreviated example, although not illustrative of all elements of theory building, conveys the idea that meta-paradigm theory development entails the explanation of interdependent oppositions, which highlight the most important contrasts and connections between paradigms.

Challenges in Conducting Multi-paradigm Research

Multi-paradigm analysis may remain an infrequent practice because it is difficult work, requiring sophisticated knowledge of differing philosophical and methodological assumptions. As Tierney (1993) suggests, combining critical and postmodern thought, for example, can be fraught with difficulties, because these two paradigms maintain assumptions that directly contradict each other. Sorting out these assumptions and materials to create unique outcomes and findings is conceptually difficult.

One of the difficulties that needs to be attended to with multi-paradigm analysis is being explicit about the goal of using paradigms and providing a description of ideas adopted from each or the ways that they are inter-related. Yanchar and Williams (2006) argue that many mixed methods researchers are particularly prone to this challenge and often ignore profound differences among paradigms in terms of ontological and epistemological assumptions, goals of research, and the role of the researcher. If researchers uncritically and un-reflexively claim that mixed methods designs represent multiple paradigms, then the analysis can lead to difficulties if underlining paradigm tensions are not addressed. Without sorting through goals, assumptions, and other philosophical issues carefully, mixed methods research can turn into work that appears to link paradigms, but actually forces an artificial

coherence on the data and potentially weakens the research results. Thus, being explicit about and working through research assumptions are critical to conducting sound and appropriate multi-paradigm inquiry.

Another challenge is finding an intellectual home or educational research community. Research communities are built on common assumptions shared by researchers (just as disciplines become homes, so have paradigms). Interpretive (or replace functionalist, critical, or postmodern) researchers tend to know each other's work, go to each other's conference sessions, and review each other's work internals. Researchers who work across research communities often find themselves without an intellectual home, which can be difficult for the tenure and promotion process, as well as for publication. Until the field begins to think more broadly about the ways that people can use multiple intellectual traditions (paradigms) and be part of more than one research community, such work may continue to be difficult.

A further difficulty in fostering and conducting multi-paradigm inquiry is that scholars are missing the needed skills to conduct this work. Graduate programs typically encourage students to develop proficiency within one paradigm. Our educational institutions, moreover, are not particularly strong at developing students who can simultaneously hold to different ideas that contradict each other and to sort out and reconcile meaningful differences. The orientation toward best practices, moreover, often does not prepare students for the kind of complex thinking required in multi-paradigm inquiry. With little socialization to multiple paradigms, graduate students may be unprepared to conduct multi-paradigm research or to use multiple paradigms to guide their leadership when they assume practitioner roles in higher education institutions (Bess & Dee, 2008).

In a related point, we believe that multi-paradigm inquiry may not be appropriate for novice researchers. Scholars may need to develop strengths and knowledge within a “home” paradigm first and then venture toward alternative perspectives. Just as deep knowledge of one’s academic discipline can prepare a scholar for interdisciplinary research, extensive grounding in a “home” paradigm can make ready the novice researcher for multi-paradigm inquiry later in his or her career. This begs the question of when a researcher knows when they are ready to conduct multi-paradigm analysis. There are certain experiences that can lead a person to be prepared for this work. For example, a person who has majored in or conducted studies from an interdisciplinary perspective is gaining skills in holding disparate views and seeing the world from different vantage points. With the increase in multi- and interdisciplinarity, there are likely more opportunities for scholars and students to engage in experiences that prepare them for multi-paradigm work. A second way to hone skills is to read deeply into the paradigm debates and obtain a clear understanding of the different assumptions and values of each paradigm. Furthermore, teaming with researchers from other viewpoints can help to develop your understanding of how others conceptualize research from other paradigms. Once a researcher has undergone a set of experiences—reading about paradigms, working with researchers from different paradigms, conducting interdisciplinary research—they will slowly begin to be able to gain the skills necessary to conduct

multi-paradigm research. Thus, readiness is an issue of experiences and skill development, not length of time as a researcher necessarily. Scholars may, early in their career, be prepared to engage in this work because they have developed these skills, while senior scholars may be wholly unprepared having not expanded their skills.

As the last few sections suggest, there is a skill deficit which will complicate the process of establishing multi-paradigm inquiry more firmly within the field of higher education. In order to address this skill gap, we suggest that scholars take lessons from recent movements toward interdisciplinary research, as noted in the last paragraph (Creamer & Lattuca, 2005) as promising ways to help students think from and between different perspectives. As interdisciplinary trends grow in the academy, faculty and students are being trained to hold different views simultaneously and bring divergent ideas together to create new knowledge. Multi-paradigm inquiry can be viewed as an extension of and a new way to think about interdisciplinarity. The two movements can support each other in increasing and expanding our knowledge base. One promising advantage of higher education as a field of study is that it is a multidisciplinary field, and students are often exposed to history, psychology, sociology, policy, and leadership theories. This multidisciplinary field represents a fertile ground for building connections across multiple disciplines, which can serve as a springboard to talk about multi-paradigm inquiry.

Another approach for bringing together expertise from different paradigms has been the development of team-based, collaborative research, which has been growing steadily in tandem with the emergence of interdisciplinary research. Research teams can be constructed to include members whose “home” paradigms differ but who are open to considering alternative analyses from different standpoints. Research collaborators can take different roles in the research design and data analysis processes; they can be constructive critics that help colleagues see the limitations of current perspectives, and at other times, they can decenter their own perspectives and permit an opposing interpretation to be viewed as a valid finding. Different research team members can bring different paradigm strengths to the collaboration, but as collaborators, they need to be open to and capable of seeing the world through very different perspectives.

A general concern that we imagine scholars will have is that multi-paradigm analysis will foreground philosophical issues and sacrifice the important methodological skills needed to conduct quality research. Learning to conduct interviews, manage focus groups, and run statistical analysis is hard enough and to ask students and scholars to extend themselves into understanding the philosophical assumptions of more than one paradigm may seem an undoable task. Yet, we see multi-paradigm analysis as a skill that is built over time among scholars who may have a proclivity toward this work. Given the greater emphasis on interdisciplinary understanding and integrative learning among undergraduates, it may be senior scholars who struggle with this issue more than new, junior scholars who may come with an aptitude and interest in multi-paradigm work.

Concluding Thoughts

Our goal in this chapter was to familiarize higher education researchers with the variety of paradigms that guide research on organization and governance, and to present ideas regarding the use of multiple paradigms to guide the research process. A growing group of scholars in the field of organizational theory contends that research can be improved when research questions emerge from and studies are conducted across more than one paradigm. Organizational theorists are now using multiple paradigms in the same study to form their research questions, shape their methods, and ground their data analyses. We described three of the approaches that these researchers are using: (1) multi-paradigm reviews, which use the techniques of bracketing and bridging; (2) multi-paradigm research, which involves either sequential or parallel studies; and (3) meta-paradigm theory building, which focuses on the dynamic interplay of paradoxes. In addition to describing exemplars from the field of organizational theory, we discussed the few examples of higher education organization and governance research that fall within those three categories of multi-paradigm inquiry. With the goal of extending and deepening the impact of multi-paradigm inquiry in the field of higher education, we then identified new directions for multi-paradigm research and meta-paradigm theory building regarding organization and governance.

While we want to encourage work in this area, we think it is extremely important that the theoretical and practical difficulties are described. Given that we are not socialized to think from a multi-paradigm perspective and that our intellectual communities do not necessarily support this work, we need to guard against the intellectual hubris of believing that it is easy to link research paradigms which represent markedly different worldviews and complex epistemological and ontological assumptions. Multi-paradigm inquiry will need to be engaged carefully and reflectively. Exemplars from the field of organizational theory, however, can inform higher education research on organization and governance issues. Similarly, lessons learned from interdisciplinary research can help provide a foundation for higher education researchers to overcome some of these challenges. Many of the same concerns raised about multi-paradigm inquiry were also raised early on when interdisciplinary research emerged.

As researchers, we are committed to both the values of open dialogue and the diversity of perspective. It is because of these commitments that we are motivated to encourage more communication and interaction among researchers from different paradigms. In our own research (Bess & Dee, 2008; Kezar et al., 2006), we have found insights from connecting or comparing knowledge from more than one paradigm to understand a phenomenon. Due to the richness we have experienced in attempting to do research in new ways, we wanted to share these opportunities with other interested scholars. We also believe that one way to create more dialogue and to become aware of the diversity of organizational research is to have individual scholars or research teams begin to conduct multi-paradigm inquiry. We feel that this is particularly important in a more globalized world where we

will increasingly encounter individuals with different worldviews and perspectives on research, and where the complexities of higher education organization and governance will continue to require diverse approaches to theory building and analysis.

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Chapter 8

An Exploration of the Scholarly Foundations of Educational Development

Gary Poole and Isabeau Iqbal

Introduction

Good academic work is built on a solid foundation of scholarship. Thus, an exploration of that scholarship should provide insights into the essence of the work. We believe this is true for the work of educational development and so we provide in this chapter one such exploration.

We have chosen the word “exploration” carefully. This chapter cannot be an exhaustive review of the scholarship related to the improvement of teaching and learning. Such a review would require an entire volume, if not more. Rather, we attempt here to understand the nature of this scholarship by providing representative and, hopefully, informative examples along with some categories.

While communities of practice tend to share common beliefs, the notion of “foundations” is still relative to context and tradition. When we use the word “foundation,” we are drawing on Entwistle’s (1997) identification of the “need in staff development to start from a powerful and simple idea which conveys complex pedagogical principles in readily accessible ways” (p. 214).

In our experience, which is derived from a North American research-intensive university, the examples we present in this chapter would generally be called foundational. Though we have endeavored to include other perspectives, international and institutional, the reader may well wish to include other work that he or she would call foundational. Our purpose here is not to provide a definitive listing of foundational work; rather, to provide a possible framework with which to discuss and understand such work.

We do this in the hope that those of us in the field can delve into the literature and present the scholarly justifications for our recommended practices to colleagues in more targeted and less daunting ways. Current use of scholarly foundations varies across educational development settings, in both its prevalence and nature. The

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Professional and Organizational Development Network (POD) in the United States asserts that we are ethically bound to learn from these foundations when they state in their ethical principles document that educational developers must “seek out knowledge, skills and resources continually to under gird and expand their practice” (POD Network in Higher Education, 2010). Our proposed framework is intended also to help us understand some of this variation in our field.

We begin this chapter with a brief overview of the nature of educational development work and centers. Overall, our focus is on three central aspects of educational development: (1) facilitating good teaching practice; (2) engendering change at the institutional level; and (3) measuring the impact of our work. Each of these aspects has a significant scholarly foundation that can be demonstrated and explored. We then examine some of the implications of doing this work within the research-intensive university. Next, we investigate the role that theory and research have played in our educational development work and consider how we can make best use of these. In the latter part of this chapter, we take a look at our role in supporting changes in institutional culture as these pertain to teaching and learning. Finally, we examine some of the ways in which the impact of our educational work has been studied.

The Nature of Educational Development

The term “educational development” is one of a number that refer generally to structured attempts to improve teaching and, ultimately, students’ learning in higher education. Other terms used to describe this work include “academic development,” “faculty development,” “staff development,” and “professional development.” For most people working in the field, these terms are not synonymous. The differences in meaning may depend upon geographic region and individual interpretation of connotation, especially regarding how holistic this development is intended to be (Brew & Boud, 1996). Some programs focus exclusively on teaching practice; others will encompass career development or more general issues such as retirement planning.

For the purposes of this chapter, we focus our attention primarily on institution-wide educational development initiatives addressing teaching and learning—“centers” as they are called generically. This focus is not intended to downplay the value of faculty- or discipline-based initiatives. Indeed, educational development may well be moving toward more local initiatives becoming the key driving forces in the field. At the same time, institution-wide centers for educational development are common in many parts of the world, and the challenges they face are significant regarding the identification and application of their scholarly foundations to their practice.

A survey of Canadian educational development centers revealed a wide range of structures and varied activities (Simmons et al., 2010). In Canada, like other parts of the world, educational development centers began to emerge in the 1970s. This

emergence has continued into the present day, with new centers being established in the last 5 years. The last 10 years has seen some centers amalgamate with other units on campus, primarily those related to educational technology, to form much larger centers. Of the 57 institutions responding to the Simmons et al. survey, 9 reported an amalgamation.

The number of people working in a given center will depend, in part, on whether there has been such an amalgamation. Staffing numbers vary from 4 or 5 to over 20 people concentrating on educational development. When technology, classroom services, and other responsibilities are added, these numbers grow considerably. Some centers have ample space and are located in the heart of the campus. Others operate in much more confined quarters, perhaps out on the physical edges. The range in unit size has implications for workload, which in turn affects the amount of time educational developers have to keep up with the scholarship of their field.

In addition to reasonably well-staffed centers and units, a considerable amount of educational development is conducted by individuals working either as a “center of one” or as part of a committee. A study of 300 institutions in the United States revealed that 31% categorized their educational development work in one of these ways (Sorcinelli, Austin, Eddy, & Beach, 2005), though the trend has been toward larger, more centralized units.

In the United Kingdom (UK), people working in these educational development units report cautious optimism regarding their future stability, though the landscape continues to change in terms of economics and governmental and institutional expectations for learning and teaching support (Gosling, 2008). In the UK, and in many other parts of the world, people working in educational development feel that they are in competition with their institution’s research interests and the resource allocations associated with those interests (Gosling, 2008). As we will describe further in the next section on research-intensive universities, educational development units face the ongoing challenge of helping an institution enhance teaching and learning while the institution balances this effort with research support. In this context, educational development units in the UK and elsewhere must manage the dual identities of being an “academic” and “service” unit (Gosling, 2008). The majority of units in the UK conduct or support scholarship in teaching and learning, help develop policy, and at the same time administer accredited courses in teaching and learning for new faculty members, or academic staff as they are called outside North America (Gosling, 2008).

A comprehensive study within Australian educational development centers (Holt, 2010) revealed a similar range of activities, from individual consultation with teaching staff to institution-wide conferences and the provision of teaching awards. While differences in national context certainly exist (Brew, 2006), the range of activities found by Holt and Gosling would be common in North American, Asian, and European higher education institutions (HEIs) as well. Indeed, our own opportunities to work in other countries have left us with the distinct impression that similarities in approaches and challenges in educational development outweigh differences from country to country.

Doing Educational Development Work in the North American Research-Intensive University

In the North American research-intensive university, as in universities the world over, faculty members are rewarded primarily for their research activities, in particular the production of scholarly publications and the garnering of research grants (Furco, 2001; Gappa, Austin, & Trice, 2007; Rhode, 2006).¹ The degree to which faculty members advance in their careers depends largely upon their success in these activities because institutional rewards are closely tied to research productivity. Although many campuses have modified their tenure and promotion policies to encourage and recognize broader forms of scholarship, including the scholarship of teaching and learning, there remain many barriers to changing academic culture (e.g., in the United States, see O'Meara, 2006).

Research-centered expectations and norms that permeate various choices faculty members make “...can be a disincentive for faculty at research institutions to explore and pursue activities that are perceived to be nonscholarly and nonresearch focused” (Furco, 2001, p. 69). It is possible that faculty members might include educational development within this category because, within academe, our work is frequently misunderstood or unfamiliar.

One of the dominant perceptions about educational development is that it is limited to conveying teaching tips and “tricks.” Although providing sound foundations for effective teaching is indeed an important aspect of educational development work, our professional aims are much broader than providing practical suggestions for teaching improvement. The scope of our work now includes a wide range of programs, services, and resources designed to support and enhance educational effectiveness in higher education; it also encompasses research into our practice (McDonald & Stockley, 2008).

However, even though research into educational development activities is increasing, it is still a fairly new phenomenon (Macdonald, 2003). Therefore, it is not surprising that faculty members still regard educational development centers as “service units” where the work done, albeit potentially helpful, is not necessarily scholarly. When the dominant perception within a research-intensive institution is that educational development is a technical matter, academics will be inclined to dismiss our work as irrelevant to their practice. When this is so, faculty members will

¹In this chapter, we focus our attention primarily on educational development within the research-intensive university. Although we recognize that educational development centers and initiatives are widely occurring at many community colleges, liberal arts colleges, and other HEIs, we have chosen to locate our work in the doctoral-granting, research-intensive university for two main reasons: first, because the cultures of such institutions often prompt us to take a scholarly approach to educational work; second, because it is the context within which our own work and research are situated. Despite our chosen focus, we believe that the content of this chapter will be relevant to educational developers and higher education researchers working in a wide range of HEIs, across North America and internationally.

put less emphasis on developing their teaching practice than they do into furthering their program of research.

Nevertheless, the field of educational development is maturing (Gosling, 2001) and scholars in the field are advocating for and modeling educational development that is seen as an academic activity (Smith and Bath, 2003). A look at publications in the field shows that educational developers are reflecting on their work, demonstrating an orientation to questioning rather than presenting solutions, using existing research to ground inquiries, and collecting data to pursue research questions. That we should want to establish the field as legitimate within higher education studies is to be expected as many of us within educational development come from disciplines where we have established ourselves through our research and teaching. Less acquainted, perhaps, with research into support for teaching, we are nevertheless familiar with established scholarly conventions. These include generating new knowledge; making use of existing theories; finding information and evidence to advance understanding; and disseminating findings through publications, teaching, and other public presentations (Brew, 2001; Knapper, 2010). These academic attitudes and practices are very relevant to educational development.

Given the above, one might anticipate that educational developers would model, and conform to, academic norms in their work with faculty members, administrators, and graduate students. When we structure our work and programs so that these are consistent with core academic values, faculty members may be more inclined to get involved with educational development to improve their teaching practice. The literature indicates that faculty members have a strong preference for activities and relationships that honor, promote, and support the core academic values in higher education: academic freedom, autonomy, collegiality, and peer review (Gappa et al., 2007). Once faculty members recognize that we are taking a scholarly approach to our work and are respectful of core academic values, they may be more motivated to engage with educational development.

The Nature of Scholarship in Educational Development: From the Apocryphal to the Research-Based

We have made the point that, in research-intensive institutions (and very possibly in *all* HEIs), those who teach are more likely to adopt a given practice if they believe it is supported by good evidence. In this section, we will explore this point further. In doing so, we cannot provide a comprehensive review of the literature on teaching and learning that might be called upon as evidence. Instead, we will look at some widely espoused tenets that are common to educational development work and explore the literature associated with them.

In terms of the things we hold near and dear in educational development, what types of literature exist and what does this literature tell us? This is a cogent question because, as educational developers, we may share beliefs about what constitutes good educational practice but not have a keen awareness of the evidence (or lack thereof) associated with those practices.

The evidence related to teaching practice is vast and varied, and the demands of educational development work are already extensive without expecting an intimate knowledge of such evidence. Some concise summaries of evidence exist, but we do not have the benefit of regularly published literature reviews and resources like medicine's Cochrane Collaboration or public education's Campbell Collaboration to help us keep up with the evidence.

In spite of the existence of such resources, many professions find it challenging to effectively inform daily practice with sound evidence. In the health sciences, for example, much has been written about barriers to what those disciplines call "evidence-based practice" (see Haynes & Haines, 1998). Haynes and Haines (1998) cite a number of barriers that apply equally well to teaching and learning in higher education. They include the following: the size and complexity of the research; the access to that research; and the need for more continuing education programs to help practitioners translate research evidence into practice.

It is important to start with the point that evidence comes in many forms. Later in this chapter, we will discuss the challenges that multiple research paradigms provide for educational developers. Here, we acknowledge that differences exist among academics in their preference for particular kinds of evidence. For example, in this chapter, we will use the word "empirical" to describe some kinds of evidence, but do not intend to imply that empirical evidence is preferable or privileged in some way. However, we would argue that the kind of evidence sought should match the kind of claim it is intended to support. As such, empirical evidence is preferred in support of empirical claims (for such things as percentage of material recalled, numbers of students preferring a particular instructional style, or the prevalence of characteristics in a population).

Furthermore, the phrase "research has shown that . . ." is different from "the opinion has been expressed that . . ." The latter phrase can be very valuable in discussions about teaching and learning. Our point here is that we should not use the two phrases interchangeably.

Works of art, metaphor, opinion papers, ethnography, quantitative research, and many other forms of scholarship can all be viable foundations for our work. As educational developers, we have an obligation to know what form of scholarship is at the foundation of that which we are espousing at any given time.

To help us do this, we start with the proposition that commonly cited tenets in educational development fall into one of three categories: the apocryphal, the theoretically plausible, and the research-based. Examples can be found from each of these categories that have had significant influence on educational development and teaching practice.

The Apocryphal: Ten Percent of What We Read

The Oxford English Dictionary (2001) defines "apocryphal" as something that is commonly used but unlikely to be true. Thus, to call a claim apocryphal is to call into question its veracity in spite of the possibility that the claim is widely held.

Most educational developers are familiar with the following tenet:
We learn

- 10% of what we read;
- 20% of what we hear;
- 30% of what we both see and hear;
- 50% of what we discussed with others;
- 80% of what we experience personally;
- 95% of what we teach to someone else.

You may have made reference to this or you may have seen it in a poster adorning a wall in an educational development center.

This tenet is most often attributed to William Glasser; however, citations do not refer to a specific publication of Glasser's, much less any empirical support for the percentages. If you ever find yourself with a free moment, try typing "10% of what we read" into Google. The results indicate that there have been a few published papers attempting to locate the source of this tenet. Notable among these papers is a 1987 paper, "Using Kolb's Learning Inventory to Improve Student Learning" (Stice, 1987). In support of Kolb's assertion that experience aids learning, the author presents a table with numbers that are comparable to those featured in the quote attributed to Glasser, though the table omits the last point—"95% of what we teach to someone else." The source of the table is a study "from the 1930s or 1940s" (Stice, 1987, p. 293) conducted by the Socony-Vacuum Oil Company. To the best of our knowledge, no paper has been found that directly reports on the findings of the oil company's study.

Referring specifically to Kolb's learning states, Stice asserts that retention is enhanced as more of the states are used. Specifically, he reports that 20% is retained if only abstract conceptualization is accessed; 50% if reflective observation and abstract conceptualization are used; 70% if concrete experience, reflective observation, and abstract conceptualization are used; and 90% if all four are involved (the fourth being active experimentation). The source of these numbers, as cited by Stice, is a private discussion with a colleague.

More recent research (Lord, 2007) has tested the accuracy of the numbers associated with the Glasser-attributed quote, sometimes called "the cone of learning." Lord used a range of methods corresponding with the levels of "the cone" to teach students how to solve five-piece jigsaw puzzles. These methods ranged from giving a mini-lecture to letting them work on the puzzles to having them teach other students how to solve the puzzles. Lord found that, as the methods moved down "the cone" (which is to say they became more engaging and active) more students could complete the puzzle in the allotted time. He translated these numbers into percentages that approximated those presented in the Glasser-attributed quote and the order of methods in the cone.

This is helpful research, though more is needed. Lord's students were asked to learn a task that was primarily visual and behavioral in nature. Given this, we cannot be surprised that primarily verbal teaching methods were relatively ineffective.

Also, we are not told how much time each of the methods took, so the findings can be confounded by simple time-on-task. The best conclusion to draw from Lord's study is not that the "cone of learning" is universal, but that pedagogy should match desired learning outcome.

Thus, the source of one of our most widely referenced tenets cannot be ascertained.² It is apocryphal, not just because of this, but because it is "unlikely to be true," in keeping with the Oxford Dictionary definition. Lord's study allows for the placement of numbers in "the cone" for a specific task, though we simply cannot place absolute numbers in this table, and we might not be able to rank order the methods of learning either. This is because the extent to which anything is retained in memory is influenced by a myriad of factors. The means of encoding the information, which is at the heart of the table, represents but one set of these factors. There is also the *content* of the message to take into account, considering such things as the complexity of the message and its appeal to emotion. This helps explain why there will be some things you have been told that are extremely memorable, regardless of what else you hear, see, or discuss with others.

The apocryphal nature of the quote does not make it useless. It invites us to consider the possibility that we should use a variety of methods in our teaching. It is the numbers that are the main problem here—numbers that are made even more problematic when presented in resources using the phrase "research has shown that . . ." A more appropriate introduction to the Glasser-attributed quote was presented in a keynote address from Piet Kommers, who called the quote "poetry" (Kommers, 2008). Much has been learned from poetry. As educational developers, we just need to be clear about the kind of scholarship to which we are referring.

The Apocryphal: A Generation of Multitaskers

To say that we learn 10% of what we read is intriguing, but as a generalization, it cannot be supported by psychological theory. This is also the case for claims that an entire generation of people is better at multitasking than are those who came before them. Similar to the "10% of what we read" example, the literature on the current generation of learners is replete with the claim that they are multitaskers, yet empirical evidence for this claim is hard to find, if it exists at all. The statement that current students' strengths include "multitasking, goal orientation, positive attitudes, and collaborative style" (Oblinger, 2003, p. 38) is more likely to stem from conclusions drawn by social commentators and business consultants (the above quote cites the following source: http://www.generationsatwork.com/articles_millenials.php Accessed: February 18, 2010). Attempts to understand today's students are valuable, but the task of finding reliably generalizable attributes is daunting.

The claim that today's learners are more likely to be multitaskers has had an impact on everything from learning space design (Brown, 2005) to classroom rules

²For a more detailed review of the search for the source of this tenet, see Atherton (2009).

(Glen, 2010). To fairly assess claims about multitasking, it is important to define the phenomenon, something rarely done in articles commenting on the attributes of generations of students. Specifically, it is important to make the distinction between simultaneous attention to tasks being performed in parallel and the rapid shuttle back and forth between tasks. When people use the word “multitasking” they could be referring to either of these processes. The distinction is important because the human brain is notoriously poor at dividing attention between two simultaneous tasks, especially if even one of them is complex (Dux et al., 2009). On the other hand, the brain can be trained to increase the speed with which it shuttles between tasks (Dux et al., 2009).

The finding by Dux and colleagues that shuttle speed can be improved might suggest that practice at shuttling, something the current generation of students presumably is getting lots of, could make them better multitaskers, as defined by quick shuttling. The problem is that, as soon as one of the tasks becomes more complex and thus demands a greater cognitive load, something must be sacrificed. Suddenly, instead of shuttling quickly between tasks, the person is being distracted off one task for the sake of another that, for various reasons, is demanding the lion’s share of the person’s cognitive resources.

This could explain the finding that people who spent a great deal of time doing what has been called media multitasking actually performed *worse* on tasks involving shuttling (Ophir, Nass, & Wagner, 2009). These people had, in fact, become more susceptible to distraction. This, in turn, helps explain why talking on a cell phone while driving can produce impairment at least as profound as driving with a blood-alcohol rating of 0.08 (Strayer, Drews, & Crouch, 2006), with reaction times slowed by 20% (Collet, Clarion, Morel, Chapon, & Petit, 2009).

While multitasking is not entirely mythical, research in this area indicates that it is a mistake to characterize today’s learners as being good enough at such shuttling to warrant modification of learning spaces to accommodate, much less encourage, such activity. Furthermore, concerns regarding students’ tendencies to surf the web and listen to MP3 players in class are warranted and should not be quelled by false assurances that “students these days” are good at this kind of task juggling.

In sum, apocryphal evidence must be identified as such. This does not mean it is of no value. The “poetry” of the Glasser-attributed quote contains wisdom. Also, it is worth knowing that today’s students are more likely to harbor the false belief that they can juggle multiple tasks and still learn well. At the same time, we must be cautious when we encounter generalized claims with statistics describing retention rates or a list of adjectives describing an entire generation.

The Theoretically Plausible: Seven Principles of Good Practice in Undergraduate Education

In contrast to the claims regarding memory function and multitasking, educational developers refer frequently to claims that are not based on empirical evidence, but still do not contradict widely held claims that are based on such evidence. An apt

example is one of the most widely accepted good practice documents, Chickering and Gamson's (1987) "Seven Principles of Good Practice in Undergraduate Education."

When it was published in the late 1980s, "Seven Principles" was a godsend for educational developers. It presented a concise, commonsense list of practices intended to enhance learning. It is continually referred to as being research-based and scholarly. Thus, in addition to being very usable, it helped answer the pressing question: "How do you know this works?"

To refresh our memories (even if you might remember only 10% of this information by reading it) here are the seven principles in a nutshell.

Good practice in undergraduate education:

1. Encourages contacts between students and faculty.
2. Develops reciprocity and cooperation among students.
3. Uses active learning techniques.
4. Gives prompt feedback.
5. Emphasizes time on task.
6. Communicates high expectations.
7. Respects diverse talents and ways of learning

(Chickering & Gamson, 1987).

Imagine an educational developer presenting these principles in a university-wide workshop. Someone says, "You have said these principles are based on research. Can you describe some of that research for us?" How can the educational developer respond in ways that will increase the likelihood these good practices will be incorporated into the participant's daily practice? This is no simple task, given that, in responding, one will probably be required to bridge research paradigms more on this challenge later. Furthermore, when one delves into the literature associated with some of our fundamentally espoused teaching practices, the research might not exist in a form we would expect.

For example, the original Chickering and Gamson paper, published by the American Association for Higher Education (AAHE), featured an interesting and extensive reference list, but none of these references was cited in the text of the paper. Rather, concrete examples were provided of how a principle might be manifest in teaching without the provision of any data on the effectiveness of those examples.

This is not to say that there is a paucity of research on the seven principles; quite the contrary. However, most of this research was published *after* Chickering and Gamson's 1987 paper. Thus, it would be better to characterize this paper as an important "thought paper" drawn generally from educational research, stimulating a great deal of good research. Thus, we would place it in the theoretically plausible category.

We use the word "theory" to describe attempts to explain and understand research findings and phenomena (Blaxter, Hughes, & Tight, 2001; May, 1997). Thus the term "theoretically plausible" is used in this context to describe an assertion that is consistent with accepted explanations for learning. The term "theoretically

plausible” is not synonymous with “theory driven,” however. Chickering and Gamson do not make explicit reference to theory in their 1987 paper. In fact, an analysis of higher education research published in the UK and Australia in 2000 found that fewer than half of the papers and books made reference to theory (Tight, 2003). Tight suggests this might be due, in part, to the fact that the demand for evidence-based practice puts more weight on evidence than theory. Consistent with this assertion, research investigating Chickering and Gamson has focused more on finding evidence than on grounding the principles in theory.

Two researchers who have sought such evidence are George Kuh and Nick Vesper. Kuh and Vesper (1997) have argued that the research inspired by Chickering and Gamson has created a constructive focus on educational process—what students and teachers are doing—rather than merely on outcome—what grades or scores students achieve. This is not to say that educational outcomes are not important or of interest. Rather, Kuh and Vesper might argue that, when processes such as those implied by the seven principles are linked to successful learning outcomes, process research can be used to inform policy and practice. It tells us what we should be *doing*. It focuses on the “how” more than the “what.” Indeed, Kuh, Pace and Vesper (1997) found encouraging correlations in the 0.3–0.4 range between evidence of Chickering and Gamson’s good principles and estimated educational gains.

If you have pursued educational research, you will know that the measurement of “educational gains” is a study in itself. For example, a considerable amount of research uses self-report measures to assess educational gain. The assumption, put bluntly, is that if students tell us they have learned, then they have. While student insights into their own learning represent one important source of data, they cannot be taken as perfectly valid measures of educational gain. In other words, such reports might be measuring something other than educational gain. In fact, Bowman (2010) reports that there is a poor relationship between such self-reports and more objective measures of learning.

Pascarella, Seifert and Blaich (2010) point out that the widely used National Survey of Student Engagement (NSSE), designed by George Kuh and colleagues, relies entirely on self-report, both in the assessment of good practice and in the educational gain. In the NSSE, students are asked to report on the frequency of certain behaviors that are considered indicative of engagement with learning environments, such as asking questions in class and writing drafts of term papers. With the limitations of self-report data in mind, Pascarella et al. conducted a study across 19 institutions in which the outcome measures were *tests* of educational gain rather than *reports* of it. Specifically, they used measures of outcomes that are commonly pursued in liberal arts programs: effective reasoning and problem solving; moral character; inclination to inquiry and lifelong learning; intercultural effectiveness; and personal well-being (Pascarella et al., 2010, p. 19). Of course, we still must ask whether these are the most relevant outcomes and whether the measures they chose were valid. Pascarella et al. take the time to provide a clear description of each outcome as well as the psychometric properties of the instruments they use to measure them (Pascarella, Seifert, & Blaich, 2008), so readers can make up their own minds regarding the relevance of the outcomes and validity of the measures.

The bottom line here is that Pascarella and colleagues did, indeed, find significant positive correlations between the scores on the majority of NSSE subscales and these outcomes. Their conclusions, then, are consistent with Kuh and Vesper's claim that we can use process-oriented research relying on well-constructed self-report measures to guide policy and practice.

This example demonstrates that it is helpful to have some familiarity with the kinds of research that have been spawned by the seven principles. For example, a number of research studies have used the College Student Experience Questionnaire (CSEQ; Pace, 1987) as a kind of proxy measure of the use of some of the seven principles. Though the CSEQ preceded Chickering and Gamson's original paper, the CSEQ happens to contain many items that assess the extent to which certain Chickering and Gamson principles are being followed, for example, faculty-student contact, cooperation among students, and active learning (Kuh & Vesper, 1997). Kuh and Vesper have thus shown that the CSEQ can be used as a tool for process-based research stemming from Chickering and Gamson's principles. Positive correlations have been found between CSEQ scores and measures of educational gains (Kuh & Vesper, 1997).

Another good example of such research was conducted by Cruce, Wolniak, Seifert, and Pascarella (2006). Cruce et al. measured the relationship between students' cognitive development and practices consistent with the seven principles, using measures of the principles taken from the CSEQ and other scales. Cruce et al. also made the significant contribution of controlling for a number of other factors known to affect student performance and development, such as demographics and institution type. To measure cognitive development, Cruce and colleagues used the National Survey on Student Learning (NSSL), comparing entry-level scores with scores at the end of first year.

They used factor analysis of 19 items from the CSEQ and NSSL to generate three main factors, called "good practice dimensions." These dimensions were called effective teaching and interaction with faculty, interactions with peers, and challenge/high expectations. See Table 8.1 for a list of specific practices associated with each of these dimensions.

These dimensions of good practice were positively correlated with students' orientation to learning (e.g., openness to diversity and challenge, learning for self-understanding, internal locus of attribution for academic success, preference for higher-order cognitive tasks, and positive attitude toward literacy). They were less well correlated with students' more general cognitive development (general education skills and competencies) and tended to help students with lower entry-level scores more.

This literature leads to at least two general conclusions: (1) we can ascertain the extent to which at least some of the seven principles are being followed and (2) there is a positive relationship between educational outcomes and the use of these principles. Thus, while the Seven Principles of Good Practice in Undergraduate Education might not have been derived directly from data on teaching practice and learning outcomes, they are sufficiently linked to plausible theory to have generated convincing subsequent research using such measures.

Table 8.1 Good practice dimensions

Dimension	Some associated sources of data
Effective teaching and interaction with faculty	<ul style="list-style-type: none"> ● Instructor high-order questioning ● Instructor feedback to students ● Instructor's clarity ● Instructional organization and preparation ● Non-classroom interactions ● Cooperative learning ● Peer interactions (course and non-course related) ● Essay exams ● High-order examination questions ● Textbooks or assigned readings ● Term papers or other written reports
Interactions with peers	
Challenge and high expectations	

Note: Based on Seven Principles of Good Practice (Chickering & Gamson, 1987), the College Student Experience questionnaire (Pace, 1987), and the National Survey on Student Learning. Adapted from (Cruce et al., 2006).

The Theoretically Plausible: Learning Styles

Another staple in the repertoire of many educational developers is the notion of learning styles. A fundamental claim of the construct is compelling and intuitively reasonable—individual differences exist in the ways people learn. A further claim is that these differences can be reliably categorized and measured. This second claim has not held up well to research scrutiny, however.

Jeffrey Koob and Joanie Funk (2002) have published a comprehensive review of the literature assessing the psychometric properties of Kolb's widely used Learning Styles Inventory (LSI). Koob and Funk identify poor test-retest reliability coefficients for the LSI. In other words, the same student may score differently on repeated administrations of the LSI. This raises the possibility that the constructs the LSI purports to measure are not stable within learners.

Researchers in the UK conducted a comprehensive analysis of 13 learning styles models (Coffield, Moseley, Hall, & Ecclestone, 2004). Consistent with Koob and Funk, Coffield et al. concluded that the psychometric properties of measurement inventories were generally poor. Only 3 of the 13 models evaluated had acceptable psychometrics (Allison and Hayes' Cognitive Styles Index; Apté's Motivational Styles Profile, and Vermunt's Inventory of Learning Styles). Regarding learning styles, Coffield and colleagues concluded that “clear simple, but unfounded messages for practitioners and managers have too often been distilled from a highly contested field of research” (p. 118).

Coffield et al. provide four reasons why much of the learning styles work has yielded questionable results. First, the research data from which styles are derived most often take the form of self-report. Second, the survey items themselves are often poor. Third, a number of theorists have significant financial investment in the

models; and fourth, even scales with reasonable psychometrics yield results that account for small amounts of variance in learning outcomes.

Coffield et al. do make the point that not all learning styles models are created equal, and that they can be placed on a continuum from those that view learning styles as fixed attributes to those that talk of flexible approaches to learning. Those closer to the latter end of the continuum are preferred.

This calls into question the practice of using models that present learning styles as fixed attributes to categorize learners. For example, the LSI does not tend to correlate well with learning outcomes. Moreover, there has been very little success in finding teaching styles that match well with learning styles such that learning outcomes are improved (Coffield et al., 2004).

Still, the notion that individual differences exist among learners remains compelling and is used by educational developers to justify the need for instructors to expand their pedagogical repertoires and pay more attention to how their students approach learning tasks. These cannot be bad things to pursue. Numerous instruments have been developed in this pursuit. Some will have better psychometric properties than others. None will provide a “gold standard” for measuring people’s learning tendencies or styles. Indeed, instruments designed to measure any human characteristic are limited by the abstractness and within-person variance of such characteristics.

Longitudinal research is required to determine how consistently people maintain a given learning style. Some longitudinal research indicates that learning styles change over time, as measured at various points across a program of study. This research presents averages across groups, however, and changes are interpreted as being consistent with program goals (e.g., Kolb & Kolb, 2005; Mentkowski & Strait, 1983). Even so, such changes suggest that ways of learning are modified to meet the demands of the learning environment.

This is quite different from what has been called the “meshing hypothesis”—that optimal learning environments should be constructed so that they mesh with a student’s preferred learning style. A comprehensive review of the literature on learning styles concluded that, while people are quite willing to state preferences in terms of approaches to their learning, there is insufficient research to support the meshing hypothesis (Pashler, McDaniel, Rohrer, & Bjork, 2009).

Of course, the “meshing,” or matching, of learning environments to the learner is a key element of good teaching. The question here concerns just what aspects of the learner can be reliably assessed and then taken into account. Learning styles generally do not prove reliable enough for this purpose. Other attributes, such as skill level, can. The difference here is that good assessment of skill or developmental level can tell us where the student *is* in their learning; learning styles inventories attempt to measure general *approaches* to that learning.

Even when working with more concrete factors such as skill levels, the matching of learning environment to a learner’s stage of development is challenging (Vygotsky, 1978). Back in the 1970s, Cronbach and Snow identified these challenges in what they called the “aptitude by treatment interaction” (Cronbach & Snow, 1977). They pointed out that social factors and complex individual

differences make it difficult to predict outcomes resulting from interactions between student characteristics and what they called “treatments.”

Taken collectively, this research on learning styles would suggest that measures of learning styles might be useful as one way to assess how group tendencies in learning shift over time. However, research has not shown that educational developers should recommend the crafting of multiple learning environments to match individual learning styles. This distinction illustrates clearly the notion of theoretical plausibility in that there is clear theoretical support for the notion that students’ views of knowledge and learning change over the course of their time in higher education (Perry, 1999). Similarly, the foundation of much of Kolb’s work on learning through experience is based on long-standing theories forwarded by John Dewey and Kurt Lewin.

In summary, tenets that are linked to plausible and, in some cases, long-standing theory are prominent in educational development. Research that has flowed from these tenets should be considered when those of us in educational development talk about a given tenet in terms of its utility and applicability.

Research-Based Foundations: The Work of John Bransford and Colleagues

There is another category of scholarly foundations for our work featuring summaries of research evidence. One example is Bransford and colleagues’ work presented under the heading *How People Learn* (Bransford, Brown, & Cocking, 1999). In this work, the authors draw from extensive research in such areas as cognitive science, educational psychology, and developmental psychology. Their objective is to distill this work into a manageable number of principles that could guide the design of learning environments.

They focus considerable attention on factors that affect learners’ ability to transfer what they have learned to novel contexts. In their discussion of learning and transfer, they conclude broadly from an extensive literature that:

- Initial learning is necessary for transfer, and a considerable amount is known about the kinds of learning experiences that support transfer.
- Knowledge that is overly contextualized can reduce transfer; abstract representations of knowledge can help promote transfer.
- Transfer is best viewed as an active, dynamic process rather than a passive end-product of a particular set of learning experiences.
- All new learning involves transfer based on previous learning, and this fact has important implications for the design of instruction that helps students learn (Bransford et al., 1999, p. 41).

Would these conclusions lead us in a radically different direction from those presented by Chickering and Gamson, Kolb, or Glasser? Very possibly not.

However, when asked by colleagues to describe the foundations for these directions, it will be easier to provide research-based answers when talking about Bransford's conclusions. In some contexts, this might be a good thing to be able to do.

As we have done with our other examples, we now will take a more detailed look at some of the research associated with the claims made in *How People Learn*. In their chapter that focuses on transfer, one of the points drawn from research is that transfer is an active rather than passive process. It should be viewed as deliberate rather than accidental or naturally occurring. To demonstrate this, Bransford et al. cite a study by Gick and Holyoak (1980). In the study, college students were given a description of a fortress that could be accessed by a series of roads radiating from it. The problem was that each road contained mines that would detonate with heavy traffic. Knowing this, a military general planning to storm the fortress deployed his troops evenly to each road, distributing the weight evenly so that no one load would be enough to detonate a mine.

The students were then given the following problem: A cancer patient has an inoperable tumor requiring strong radiation. The problem is that one ray of sufficient strength would damage healthy tissue so badly that it is not a feasible solution.

One group of students was left to their own devices to solve the radiation problem. Another was told explicitly that information from the fortress story would help them. Few students in the first group solved the radiation problem. However, over 90% in the prompted group recommended sending a set of weak rays into the body from different angles such that they converged at full strength at the tumor site.

Of course, teaching students to transfer requires processes that are considerably more sophisticated than simply telling them to transfer. For example, transfer is facilitated when the original context and the new context share elements in common. This is complicated by the fact that few contexts share blatant elements in common, but they might share abstract elements. This would mean that teaching students how to look for these abstract elements that relevant contexts share would facilitate transfer. Bransford et al. present a number of studies from various disciplines indicating that teaching abstract elements facilitates transfer more effectively than does teaching specific shared elements.

It would be inaccurate to characterize *How People Learn* as a resource that takes a myriad of complex educational research studies and distills them to a manageable collection of simple principles. Bransford et al. do not "dumb down" complex cognitive processes associated with learning. As such, it would not be enough for an educational developer to simply send instructors to the *How People Learn* website (http://www.nap.edu/openbook.php?record_id=6160. Accessed: February 22, 2010), even though the entire book is freely accessible there. Rather, in planning workshops that link learning theory and research to practice, it would be worth the time for the workshop facilitator to visit this site to develop a familiarity with at least some of the research upon which the books' conclusions are based.

Research-Based Foundations: Taking Stock

In February 2010, McGill-Queen's University Press published *Taking Stock: Research on Teaching and Learning in Higher Education* (Christensen Hughes & Mighty, 2010). *Taking Stock* presents 15 chapters that either summarize the research related to a particular aspect of teaching and learning or provide a rationale for why such research is not standard fare for those who teach in higher education. The book is written in a way that should be accessible to a wide range of academic backgrounds.

Two chapters of key relevance to the current discussion are Noel Entwistle's (2010) overview of research on learning (*Taking Stock: An Overview of Key Research Findings*) and Keith Trigwell's (2010) chapter presenting research on the relationship between teaching approaches and learning approaches (*Teaching and Learning: A Relational View*). Here, we present a summary of each chapter to provide a sense of their content and their importance as scholarly foundations to the work of educational developers.

In addition to presenting key research findings, Noel Entwistle provides a useful critique of research methods—from lab studies to questionnaires to in-depth interviews. This critique is relevant to the research presented in this chapter, some of which relies heavily on survey methods (e.g., Kuh & Vesper, 1997), psychological experimentation (Bransford et al., 1999), or in-depth interview (Trigwell & Prosser, 2004). Entwistle invites us to consider what has been called ecological validity (Coolican, 1992), or the extent to which research findings can be applied in practice.

In his critique of methods, Entwistle also invites us to consider what we mean by learning outcomes. Are we talking solely about the attainment of behaviorally defined objectives or do we mean something more abstract and meta-cognitive? The answer to this question will determine the kind of research one considers relevant. For example, behavioral objectives might be best attained via behavioral approaches. Thus, research assessing the effects of repetition or successive approximations of complex behaviors would be of interest. On the other hand, if learning outcomes are construed in more abstract ways, as was the case for Pascarella, Seifert, and Blaich (2010), discussed earlier in this chapter, we would be interested in research that measures the goals of liberal arts education. Similarly, the term “learning gains” used by researchers such as George Kuh carries its own set of implications regarding research methods, perhaps suggesting the use of pre-test–post-test designs.

Entwistle also identifies key theories in the quest to understand students’ thinking regarding the nature of knowledge. For example, he describes the work of William Perry (1999), whose interviews of undergraduates yielded a taxonomy of intellectual development, moving from a belief that knowledge is either right or wrong to knowledge being relative and the result of social construction.

Marton and Säljö’s (1997) notion of deep versus surface approaches to learning is also described. Students adopting a surface approach employ rote memorization in an attempt to be able to repeat definitions of concepts. By contrast, a deep

approach strives for much more thorough understanding and an ability to apply concepts across contexts. These approaches are not akin to student characteristics. Rather, they are deliberate strategies employed in response to students' interpretations of what a given learning environment requires. Like Perry, Marton and Säljö used interviews as their main method of data collection.

The work on approaches to learning and the deep/surface dichotomy have been accepted for many years with little critique. One notable exception is a paper by Tamsin Haggis (2003), who has suggested that this lack of critique can be attributed to the fact that deep approaches to learning mirror the approaches of most academic staff. Rather than contest the construct of deep approaches to learning, those in higher education hope to create students who are images of academic staff. Haggis maintains that we hold stubbornly to the value of deep approaches even though it has been shown that it is very difficult to change a student's approach from surface to deep and that surface approaches have been proven "very successful" (p. 93) in some contexts. Haggis does not define success in this case.

Haggis also points out a contradiction in the discourse related to approaches to learning. On the one hand, there is the claim that approaches to learning are responses to the demands of a particular learning context while, on the other hand, examples are provided of surface and deep approaches used by different students in *the same context*, implying that the approach is a function of trait-like individual differences among students. As an alternative to the approaches to learning constructs, Haggis offers the use of "academic literacies" to help students learn within specific disciplines. If, in our teaching, we are more explicit about the genres and analytic customs of our disciplines, students will be more likely to find their places within the disciplines and, consequently, learn from them.

Entwistle would not be dismissing the importance of "academic literacies" when he cites research to indicate that students' perceptions of their learning environments affect their learning within those environments. This research is particularly relevant to the use of student surveys of teaching, surveys that tend to measure student perceptions. Educational developers often find themselves in the position of helping instructors both interpret student survey data and make relevant changes as a result of these interpretations. We also can be called upon to justify the use of such data in the first place. One of the criticisms leveled at student evaluations of teaching is that they measure perceptions rather than realities. Thus, the literature reviewed by Entwistle becomes particularly cogent, as it underscores the importance of these perceptions.

In terms of face-to-face teaching, Entwistle concludes that student perceptions of clarity, level of difficulty, pace, structure, explanation, enthusiasm, and empathy are particularly important. Research cited in Perry and Smart (2007) links perceptions of these elements with learning outcomes (e.g., Abrami, d'Apollonia, and Rosenfield, 2007).

Another area reviewed by Entwistle relevant to educational development is disciplinary differences in teaching. He reviews the work of Janet Donald (1994), in which she lists important similarities and differences among five disciplines. Donald discovered, for example, that the abstract nature of concepts presented in physics

posed challenges for the instructor that are less apparent for those teaching in a more concrete discipline such as engineering.

Entwistle does not review the Carnegie Foundation research on teaching within the disciplines and the notion of “signature pedagogies” that stems from this work (Shulman, 2005). Carnegie researchers conducted in-depth analyses of teaching within five professional schools: medicine, law, engineering, teacher education, and the clergy. In this research, it was discovered that each professional school had distinctive teaching methods that were intended to socialize students into the profession and prepare them for practice within the profession. Thus, medicine has its rounds and law its cases with the practice of calling upon students by name to provide their analysis of them.

Educational developers are questioned regarding their knowledge of teaching within a discipline that might not be their own. Some knowledge of signature pedagogies and the ways knowledge is construed within the discipline can be helpful here, though wise educational developers never claim to be experts in teaching across all disciplines. Rather, they have expertise in being able to facilitate conversations within disciplines to get at the essentials of teaching within those particular contexts.

Threshold concepts represent another way of characterizing teaching and learning within specific disciplines. Entwistle reviews this notion, as forwarded by Meyer and Land (2003). Meyer and Land used in-depth interviews to identify concepts that take on particular significance in a given discipline. When students understand a threshold concept, other concepts become easier to learn. Students feel they have entered the discipline and their identities change accordingly. Such concepts can also be somewhat troublesome in that they challenge beliefs students may have held for some time. Interviews across a broad range of disciplines have shown that instructors can virtually always identify threshold concepts, and there is considerable agreement within a discipline regarding just what these concepts are. An example of a threshold concept identified by people who teach economics is opportunity costs, or the cost associated with passing up certain options when making a decision (Meyer & Land, 2003).

The remainder of Entwistle’s extensive chapter focuses on research assessing the effectiveness of specific pedagogies, such as problem-based learning and team-based approaches. In all, Noel Entwistle’s chapter presents a comprehensive overview of the key conclusions from research on student learning, with ample examples to develop a useful knowledge of research associated with each tenet.

In another chapter of *Taking Stock*, Keith Trigwell makes a distinction between research on student approaches to learning and research on the relationship between those approaches and teachers’ approaches. As we know from Entwistle’s chapter, there is considerable research on the effect of student approaches on learning outcomes. The relationship between student and teacher approaches is less researched.

The first step is to develop a way to understand teachers’ approaches to their work. For example, Pratt et al. (1998) have identified five teaching perspectives and has devised a widely used inventory (the Teaching Perspectives Inventory, or

TPI) to measure the extent to which a teacher adopts some combination of these perspectives (Pratt et al., 1998). These perspectives are transmission, in which the main goal is to deliver content; apprenticeship, in which teaching is seen as a process of modeling that which is to be learned; developmental, where the focus is on learning processes over time; nurturing, in which the goal is to support and engender personal agency; and social reform, in which the main goal of teaching is to create a better world.

Trigwell and Prosser (2004) have also categorized teacher approaches via a large number of interviews and, like Pratt, devised and tested an inventory (the Approaches to Teaching Inventory, or ATI). Unlike Pratt's teaching perspectives, Trigwell and Prosser's approaches to teaching are context-based and hierarchical. Higher-level approaches build upon the strategies of lower-level approaches.

The ATI is a carefully developed instrument with good psychometric properties (Trigwell & Prosser, 2004). It focuses on the two extremes of the five categories identified in Trigwell and Prosser's original interviews. The teacher-focused end is called an Information Transmission/Teacher-Focused (ITTF) approach. As the name implies, it emphasizes what the teacher is doing and the goal is the transmission of content. The student-focused end is called a Conceptual Change/Student-Focused (CCSF) approach. The emphasis here is on what the student is doing and how to create learning environments that get students to do the sorts of things that allow them to develop their own understanding of concepts.

The development of the ATI allowed Trigwell and colleagues to conduct research that correlated teaching approaches to learning approaches, such as deep versus surface, Haggis' criticisms of the constructs notwithstanding. Like the research by Kuh and others described earlier in this chapter, the research using the ATI is correlational in nature. It looks at relationships between ATI scores and scores on the Study Process Questionnaire, which measures deep and surface approaches. The consistent finding across a range of studies is that the Transmission/Teacher-Focused (ITTF) approach yields a surface approach to learning and the Conceptual Change/Student-Focused (CCSF) approach is associated with a deeper approach (Trigwell, Prosser, & Waterhouse, 1999; Trigwell, Prosser, Ramsden, & Martin, 1999). Moreover, Gibbs and Coffey (2004) found that educational development programs increased participants' propensity to adopt CCSF approaches, with concomitant changes to their students' approaches to learning.

This research is important because it links teaching approaches to learning approaches. In so doing, it helps answer questions about what constitutes good teaching. To this extent, Trigwell and colleagues' research is similar to that of Kuh and Vesper, Cruce et al., and other work spawned by Chickering and Gamson. All this research aims to identify good practice and relate it to either learning outcomes or students' approaches to learning. The difference is that Trigwell and colleagues set out to identify approaches and design a measure based on extensive interviews of teachers. Research on the seven principles, on the other hand, has tended to use what might be called "proxy" measures, with coincidental similarities to the principles.

Research-Based Foundations: Paul Ramsden's Learning to Teach in Higher Education

Trigwell's chapter on the relationship between approaches to teaching and learning grows from a strong tradition that considers the way teachers think about teaching to be crucial to teaching improvement. In this tradition, one of the strongest pieces of foundational scholarship has been provided by Paul Ramsden (1992, 2003) in his book *Learning to Teach in Higher Education*. Ramsden and Trigwell also draw significantly from other important work, including that of Kember (1997) and Biggs (1987), the latter focusing on students' approaches to learning.

According to Ramsden, teaching without a theoretical basis is like driving a car without a steering wheel. When Ramsden refers to theory in this context, he is talking about what psychologists might call "implicit theories"—or those that are generated by the individual (Sternberg, Conway, Ketron, & Bernstein, 1981) and not necessarily by related scientific communities. In our own work, we have explored with colleagues what we have called their "teaching heuristics"—those implicit theories and beliefs that inform their teaching. Similar to Ramsden, we have said that teaching without such heuristics is like running a computer without an operating system.

Ramsden forwards three theories of teaching that emerge from extensive research featuring interviews of those teaching in higher education. Like the approaches presented by Trigwell (2010), these theories are presented hierarchically, moving from the teacher-centered to learner-centered.

In Theory 1, teachers focus on what they need to do in order to transmit content. In Theory 2, the focus is on what the teacher must get students to do in order to learn the content. Theory 2 is more learner-focused, but it still places the emphasis on what the teacher is doing in terms of creating activities and learning environments. Those espousing Theories 1 or 2 can do all their planning in advance.

In contrast, Theory 3 focuses on what Ramsden calls making learning possible. People adopting this theoretical approach to their teaching work collaboratively with students to support and direct learning. While there is still planning involved (remember that Ramsden's model is hierarchical—Theory 3 encompasses the best of Theories 1 and 2), Theory 3 teachers are much more responsive to students' progress or lack thereof.

According to Ramsden (2003), teaching that is effectively responsive in this way follows six key principles. These are as follows:

1. Maintain students' interest and provide clear explanations;
2. Demonstrate concern and respect for student and student learning;
3. Provide appropriate assessment and feedback to students;
4. Provide clear goals and intellectual challenge for students;
5. Design learning environments that encourage students' sense of independence, control, and active engagement;
6. Learn from students.

An important underlying assumption of Ramsden's recommendations is that students construct knowledge. It cannot simply be transmitted to them. This assumption is also at the heart of Biggs' notion of constructive alignment—aligning learning environments, outcomes, and assessment strategies so that students can construct desired knowledge, skills, and attitudes (see Biggs, 2003). Indeed, Ramsden's presentation of theories of teaching assumes that teachers construct knowledge as well. He asserts that educational developers must be cognizant of these constructions, or implicit theories, in order to help people improve their teaching.

All these research-based foundations take differing paths to the same place. Trigwell, Ramsden, Bransford, and colleagues talk about the value of student-focused over teacher-focused approaches. Kuh and others talk about the importance of researching processes that are related to learning outcomes (i.e., what the student is doing). Barr and Tagg (1995) talk about moving from teaching to learning as a focal point for conceptualizing and planning in higher education. In this section, we have introduced three categories of scholarly foundations on which educational development is based. All our fundamental tenets, regardless of category, espouse this focus on learning and the student.

Bringing Scholarly Foundations into Practice: Challenges for Educational Developers

It is one thing to categorize the scholarly work conducted in the area of teaching and learning. It is another thing altogether to bring this scholarship into our practice as educational developers. Bringing educational scholarship into practice requires the psychological work of getting colleagues to consider this literature to be valid and important. This work is not helped by some of the language featured in the literature. David Green (2009) provides an excellent description of this language and faculty members' negative reactions to it. Words like "agentic" and phrases like "... non-functional ritualistic imitations of distantly perceived and uncomprehended models" (Green, 2009, p. 40) are not used widely across all disciplines, making it difficult to translate research into practice. Such language has been shown to alienate colleagues from the research that may support good practice.

In his *Taking Stock* chapter, Noel Entwistle makes the point that there is no single preferred practice in teaching. Rather, there is a potential "goodness of fit" between a given practice, a desired outcome, and a learner. Thus, we run into a significant challenge in educational development if we use a term found commonly across numerous disciplines—"best practice." The term "best practice" has a long history in health care. It is most often used to describe, not so much the best possible practice, but the best we have at the time. As such, the term should imply an iterative process. It is in this vein that we recommend the use of the term when discussing scholarly foundations of our work.

In this chapter, we have characterized the foundations of some of our dearly held tenets as being either apocryphal, theoretically plausible, or research-based. In so doing, we have acknowledged the potential value of everything from poetry to

factor analysis. In our practice as educational developers, however, the recognition of such value differs dramatically from one discipline or institution to the next.

We have worked with engineering departments where faculty members quickly and easily see the value in a matrix approach to curriculum design. Those same faculty members, however, need more time to understand how ethnographic analysis could be used to help them understand important differences among groups of students working on team-based projects (see Aman et al., 2007).

The debates and preferences for certain research methods and forms of evidence are, therefore, very relevant for the educational developer who serves all disciplines and research traditions. When a particular educational practice is introduced or espoused, academics ask, “How do you know this works?” This is a way of asking if we are espousing “best practice” or “evidence-based practice.” Thus, reference to supportive evidence can be problematic if that evidence does not fit within the research traditions of the inquirer’s discipline.

We also face the very real possibility that the research we introduce to colleagues is foreign to *most* of them. In fact, we will occasionally work with colleagues who are surprised that there is any research literature on the teaching and learning issue with which they are grappling.

Before we give up entirely, it should be noted that faculty members’ awareness of educational literature appears to be improving. For example, in our practice, we are unlikely now to hear what Maryellen Weimer heard from a workshop participant a few years ago when she directed the person to a particular book on university teaching: “You mean an *entire book* has been written about university teaching?” (Weimer, 2005). Now, organizations like The International Society for the Scholarship of Teaching and Learning attract over 600 participants to annual conferences. Many of these people are faculty members working in the disciplines. Awareness of research on teaching and learning is increasing.

Indeed, a source of considerable hope when we think about the translation of research into practice is the current movement known as the scholarship of teaching and learning (SoTL). In this movement, the people who we hope will apply good research to their teaching are actually doing some of the research. This area features its own set of challenges, some of which we have already discussed in this section. Nevertheless, SoTL responds to a point made by Green and Glasgow (2006) that “if we want more evidence-based practice, we need more practice-based evidence” (p. 126).

Concomitant with the development of societies and organizations, individual institutions are creating institutes and research groups, composed of faculty members from across a range of disciplines. A scan of educational development websites in Canada, for example, yields numerous examples (Poole, 2010).

This is not to say that there is a widespread, keen awareness of this literature. We still encounter debates about the reliability and validity of student evaluations of teaching, for example—debates that summarily ignore decades of research on this topic. One-way, transmission-based teaching still abounds (Knapper, 2010), with assessment strategies that ignore a large literature on what has been called “authentic assessment” (Wiggins, 1993).

These challenges are real, though we believe they are alleviated somewhat by a good understanding of the major categories into which our evidence falls. From there, we can seek out appropriate examples of such evidence and present it to colleagues in ways that, at the very least, make all concerned aware of the breadth of the gap between evidence and practice.

Where Does This Leave Us in Educational Development?

We have presented three categories for educational development's scholarly foundations in the hope that these will help us understand and talk about these foundations in our work. The categories remind us that "evidence" in our field takes on many different forms. That said, we should still be able to distinguish between strong and weak evidence.

In *Taking Stock*, Noel Entwistle provides a series of questions we can ask on a general level to help us evaluate both the theoretical underpinnings and the practical value of our scholarly foundations (remembering that over half of educational research does not make reference to theory [Tight, 2003]). These are as follows:

- Is the theory presented in language that is readily intelligible to teachers?
- Can the aspects identified as affecting learning be readily changed?
- Does the theory have direct implications for teaching and learning in Post-Secondary Education (PSE)?
- How realistic and practicable are the suggested implications?
- Will the theory spark off new ideas about teaching?

(Entwistle, 2010)

Many of us will have taken research methods courses in which we were taught how to critique concepts, methods, findings, and conclusions. This knowledge can be very helpful as we consider our scholarly foundations, though it is probably discipline-specific. As an example, our critique of the concept of multitasking is forwarded from the perspective of cognitive psychology, which is no surprise given the disciplinary background of one of this chapter's authors. For other kinds of critique, we must rely on colleagues familiar with other disciplinary traditions. No single educational developer can critically analyze the whole of educational research. Educational development work crosses disciplinary boundaries, not just in terms of the pedagogies we prefer, but also in the scholarly foundations on which our field is built. We need to invest more energy in providing for each other analyses and recommendations regarding the strength of evidence.

Understanding Organizational Culture in Order to Enact Organizational Change

To this point in the chapter, we have focused on scholarship intended to guide teaching and learning—the practices of colleagues and students. Now, we look at scholarship designed to inform our own practice as educational developers. To date,

education research has provided a useful foundation when we have needed to articulate the rationale for practices we espouse. Still, the question we need to continually pose ourselves is, “What else can we do to help enact change at the organizational level and what scholarship can help us with this endeavor?”

Theories of organizational change are many and tend to have their own assumptions about how and why change occurs. Cultural, social cognitive, evolutionary, and life-cycle theories are only but a few of those used to conceptualize, foster, and/or explain change (Kezar, 2001). Although expanding on these theories is beyond the scope of this chapter, we mention them here to point to the fact that there is an extensive and expansive literature that can help us grow our understanding of the role of educational development in the process of organizational change.

For, in our educational development work, we frequently strive to support change—individual and institutional (Fraser, Gosling, & Sorcinelli, 2010). Metaphors such as “crossing borders” (McAlpine & Harris, 1999) and “trading zones” (Mills & Taylor Huber, 2005) have been suggested as ways to conceive of our work with different communities of scholars and our approaches to that work. We have often described ourselves as “change agents” (Dawson, Mighty, & Britnell, 2010; Ouellett, 2007) who need to be “strategic” within the context of multiple academic cultures: institutional, departmental, and disciplinary, to name a few. In assuming this role, we can benefit then, not only from becoming discerning users of research into teaching and learning, but also from strengthening our understanding of organizations and organizational change in higher education. Both personal experience and reading pertinent literature can help us address this aspect of our work.

Kezar (2001) cautions, however, that change within higher education requires a “distinctive approach” (p. v): one that takes into account the unique features of HEI. Summarizing findings from the literature, Kezar writes that some of these unique features include the following:

- Faculty members are highly values-driven. Some values, such as the collegial ideal, academic freedom, and autonomy, are shared among faculty members, but other values—for example, the socialization of early career academics—may be particular to the discipline (Gappa et al., 2007).
- Faculty members tend to be influenced more by referent power than by legitimate power and rewards. Referent power is based on trust and shared values with individuals that academics identify as belonging to their scholarly community. Legitimate power, on the other hand, is power vested in people by virtue of their positions in the (hierarchical) academy (French & Raven, 1959). Because academics believe in and foster a shared sense of identity, they are more willing to be influenced by their colleagues than they are to be influenced by external rewards and/or administrative regulations.
- Administrative values and academic values differ. Unlike academic values that affirm the importance of collegiality, academic freedom and autonomy, and peer review, administrative power “values bureaucratic norms and structure, power and influence, rationality, and control and coordination of activities” (Kezar, 2001, p. 72).

Combined, the unique features of each HEI create an organizational culture and, although similarities exist among post-secondary institutions, there is widespread agreement that institutions differ from one another. Thus, not only do educational developers need to take into account the distinct features of HEI when we work toward organizational change, but we must also intentionally grow our understandings of our home institution's specific cultural entity. Building our understanding of organizational culture, and coming to know how cultural influences play out in departments, across the institution and more broadly, can help us address some of the challenges of initiating or supporting transformational change within higher education (Tierney, 1988).

Educational developers, administrators, and faculty members often have an intuitive understanding of how culture affects their decision making. Although this basic awareness is important, we would like to suggest that by embarking on a more formal understanding and/or investigation of organizational culture, we may better be able to contribute to transformational change within higher education. Transformational change is deep and pervasive change that affects the whole institution. It occurs over time as a result of intentional efforts; it alters the institutional culture (Eckel, Hill, Green, & Mallon, 1999). If transformational change related to teaching and learning is what educational developers aim to achieve, then how can the concept of organizational culture aid us?

Many approaches exist to the study of organizational culture. One of these is Schein's Theory of Organizational Culture (2004); it has been used in studies of higher education (e.g., Gallant, 2007; O'Meara, 2004). We present some information on this model, not to suggest that it is "best" for understanding organizational culture, but only to illustrate how educational developers might use such a framework to examine the cultures within which they work.

Under Schein's framework, culture is defined generally as

A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (Schein, 2004, p. 17).

Culture, explains Schein, results from extensive group learning processes. It provides order and meaning to group members, simultaneously restricting them and offering stability. According to this definition, groups face two fundamental and interdependent challenges as they evolve: integrating individuals into a productive collective and adapting effectively to the external environment. As people within organizations create solutions to these problems, they develop, over time, systems of shared meanings. Culture is the name given to the resulting joint beliefs and assumptions. Thus, Schein's (2004) Theory of Organizational Culture serves to help understand complex interactions among faculty members and/or administrators in any given higher education institution.

Schein describes three levels at which culture manifests: (1) artifacts; (2) espoused beliefs and values; and (3) underlying assumptions. Artifacts include the visible structures and processes within an organization, such as the languages

used, the technologies employed, and the creations produced. They also include myths, stories, rituals, and customs within an organization. Espoused beliefs and values, according to Schein, reflect what the group members judge to be important. They give an indication of what individuals within an organization value and/or consider acceptable (Jutras, 2007) but may or may not actually guide behavior (Values Based Management, n.d.). Finally, basic assumptions include beliefs, perceptions, thoughts, and feelings that are so taken-for-granted that they are normally quite consistent within a social unit and typically treated as non-negotiable. Because these assumptions influence group members' behaviors, uncovering them is key to understanding the culture of that group. Since basic assumptions "tend to be nonconfrontable and nondebatable" (Schein, 2004, p. 31), they are apt to be very powerful. What renders them so powerful is that, unlike values—which are subject to discussion—basic assumptions generally remain unquestioned and unexamined, but mutually reinforced.

In order to illustrate how Schein's work can help us better understand—and therefore presumably more efficiently—advance organizational change, we can consider the peer evaluation of classroom teaching. Educational developers are frequently involved with helping departments establish and/or improve their peer review of teaching schemes; this work involves an attempt on our behalf at effecting organizational change and requires us to work closely with the concept of academic culture. In North America, the peer review of classroom teaching is often one way in which teaching is evaluated for the purpose of making tenure decisions (Gravestock & Greenleaf, 2008). The practice of peer review of teaching can be considered an artifact (i.e., a ritual or custom), according to Schein's levels. It is typically conducted by one or more senior departmental colleagues who, working as part of a tenure committee, conduct at least one observation of teaching in order to produce a report that is ultimately used to help determine whether the candidate under review has been successful in achieving tenure. In this example, the espoused belief is that a peer who is (1) of senior academic rank and (2) a member of the candidate's department is the most suitable individual to evaluate teaching. This practice, therefore, aligns very closely with the value of collegiality, which is highly cherished in academia (Gappa et al., 2007).

Practices such as having senior (i.e., tenured) departmental colleagues conduct high-stakes evaluations of their colleague's teaching are based on assumptions that might be revealed when an educational developer is invited to help a department modify its peer review of teaching schemes. For example, let us assume this said educational developer proposes, based on his/her findings about peer review best practices in the literature, that peer reviews of teaching be conducted by individuals within their department who are strong teachers (as determined by their student evaluations of teaching and/or their demonstrated interest in developing their teaching practice), irrespective of their title and rank. That is, the educational developer proposes that peer reviews could be conducted by contingent faculty members, part-time faculty members, or tenure track faculty members of a more junior rank. In some departments, this suggestion might be fiercely rejected because it violates a basic assumption held by most members: only tenured departmental

faculty members of a senior rank are “qualified” to evaluate their junior colleagues’ teaching. If that were the case, enacting a change in the peer-review process (i.e., enacting transformational organizational change) whereby peer reviews were conducted by faculty members of varying ranks would be very challenging. The educational developer who can uncover relevant departmental beliefs, values, and assumptions could, presumably, more aptly work with departmental faculty members to change their peer-review scheme. This example illustrates that a knowledge of departmental culture, using an approach such as that provided by Schein, can help faculty developers know how and when to advocate for change. The same theory, or other theories of organizational change, can also be used to better understand and/or foster change institutionally or beyond the university (for a more elaborate example of using a change model to enact institutional change, see Dawson et al., 2010).

To illustrate the use of organizational change theory at the institutional level, let us consider university-wide committee work pertaining to decisions that have implications for tenure and promotion. One such committee may be charged with the responsibility of developing policy regarding the content of teaching dossiers. An educational developer placed on such a committee may want dossiers to include evidence of reflective practice. Advocating for this assumes that the formative processes of reflection can overlap constructively with the summative processes associated with tenure and promotion decisions. In terms of Schein’s view of institutional culture, before the educational developer makes such recommendations to the committee about the value of reflective practice, he/she must have some understanding of the institution’s beliefs regarding formative and summative processes. Specifically, s/he must understand whether the institutional culture sees these as being entirely separate processes. If so, then the inclusion of a section in the dossier on reflection becomes problematic for administrators working within this culture. They might see the reflection section of a dossier as “rationalizing” or “excuse making,” or at least impossible to assess. They might also think that improvement is a positive thing, but it is where a person stands now that is important for tenure and promotion. On the other hand, if the institution sees overlap between formative and summative processes, then administrators may be open to the possibility that formative processes, such as reflection, can be evaluated for summative purposes. The above two examples point out that models of organizational change may be useful for guiding change and/or understanding culture at multiple levels.

Research into the Impact of Educational Development: Trends and Findings

Even if we learn how to engender change, how can we know that it has been change *for the better*? In fact, the lack of systematic evaluation of educational development programs is an ongoing concern (Gibbs & Coffey, 2004; Ho, Watkins & Kelly, 2001;

Kreber & Brook, 2001; Stes, Coertjens, & Van Petegem, 2010; Weimer & Lenze, 1997). The purpose of this section is to provide a brief overview of findings into the impact of educational development and describe some trends in studies conducted to date. We will also present some of the conclusions that have been drawn about the effectiveness of educational development and suggest ways in which the study of impact may be expanded in the future. In doing the aforementioned, we aim to provide our readers with a sense of research frameworks that may be employed to approach the evaluation of our work.

Where to Look When Measuring Impact

The potential effects of an educational development intervention are extremely difficult to quantify. This is because there are multiple variables—many of them not addressed by a given initiative—that play into whether or not a participant changes his or her beliefs, behaviors, and attitudes with respect to teaching. Furthermore, many programs emphasize skills, values, and outcomes that may unfold slowly over time and can vary depending upon the individual. In addition, as Weimer and Lenze (1997) point out: “...the interventions, in and of themselves, do not improve instruction. They are the methods used to motivate and inform instructional change, but the faculty member alone implements the alterations” (p. 205).

To date, most of the published literature that investigates the effectiveness of educational development consists of case study accounts undertaken by educational developers on their own professional practice. The element of practice most commonly examined is an organized activity, such as a short workshop, a yearlong workshop, a peer evaluation, or consultations, intended to positively affect the participants’ instruction and, ultimately, student learning. Researchers who attempt to evaluate the effect of the activity on instruction commonly attempt to analyze the participants’ self-reported changes via questionnaires with open-ended questions and qualitative interviews. Most evaluation attempts to measure participants’ satisfaction with, and perceptions of, a program and change in participants’ knowledge, attitudes, and beliefs about teaching and learning. Attempts have also been made to measure changes in participants’ teaching performance. Determining the relationship between educational developers’ interventions and student learning has proven much more challenging, as has assessing the effect of our work on institutional culture (Gibbs & Coffey, 2004; Prebble et al., 2004).

Calls for more research into the impact of educational development abound. Traditionally, research in this area has presumed there is a direct cause-and-effect relationship between specific teaching interventions and learning outcomes. The researcher who carries out an evaluation study typically identifies desired learning outcomes for the educational development participants, selects quantitative and/or qualitative measures by which to determine to what extent those outcomes have been achieved, and writes a report presenting the data and its analysis (Sword, 2008). Empirical studies of this type promote the notion that benefits of education can and should be measurable within a predetermined time period (Sword, 2008). They are

driven by a belief that stages of change are detectable and identifiable and by a desire to claim that an end point is attained through educational development. Our work, however, is likely to be only one of many factors that contribute to instructor growth.

In current calls for more research into impact, the limits of causal models have been acknowledged; scholars in the field have pointed to the need for greater sophistication in empirical design and have asserted the advantages of using multiple forms of inquiry over different time spans. Furthermore, it has been emphasized that studies of impact must move beyond assessing at the level of the individual participant and should engage with evidence from a variety of sources such as the institution, the department, the experience of the students taught by the participants, and other stakeholders (see, for example, Kreber & Brook, 2001, for a model of evaluating impact). Finally, it has been suggested that educational development research can be strengthened when it connects to explicit theoretical bases (Brew, 2006; Rowland, 2003; Weimer & Lenze, 1997). Adult learning theories, theories of organization change, and theories that derive from social psychology, to name a few, can provide theoretical foundations for research into the impact educational development.

Reviews of the Literature on Studies of Impact: Approaches and Conclusions

In this section, we introduce three reviews of the literature on the impact of educational development and outline the strategy their authors adopted to reach their conclusions. In addition to reporting on some of the findings, we wish to draw attention to the common methodologies and challenges highlighted by these reviews and as it concerns evaluation of our work. Examining the scholarly foundations of measuring impact can help us determine what we confidently can assert regarding impact and what research still needs to be conducted.

The most frequently cited reviews of the literature on impact of educational development are by Levinson-Rose and Menges (1981) and by Weimer and Lenze (1997); both these publications primarily addressed educational development efforts in American institutions. More recently, Prebble et al. (2004) conducted an extensive review of more than 150 published studies dating from the early 1990s to the early 2000s from Australia, New Zealand, North America, the UK, Singapore, and Hong Kong. The intention of this latter review was to determine the effects of educational development on student outcomes, but since few studies examined this relationship directly, the authors instead focused on the relationships between educational development and effective teaching. Levinson-Rose and Menges (1981), Weimer and Lenze (1997), and Prebble et al. (2004) shared a common strategy to review the literature on the impact of educational development which may, in part, help understand the consistency in their results.

In the three studies, the authors categorized the educational development intervention investigated as belonging to at least one of the following categories:

- Workshops, seminars, and programs
- Consultations, peer assessment, and mentoring
- Grants for instructional improvement projects
- Student evaluations of teaching
- In situ training (working within a department)

The authors used these categories as a way of organizing their claims about the overall impact a type of educational development intervention could have. Next, for every study, Levinson-Rose and Menges (1981), Prebble et al. (2004), and Weimer and Lenze (1997) considered at which level impact was being assessed (see Table 8.2 on page XX). Each review used the same levels of assessment to analyze research findings:

1. Participants' perceptions and satisfaction with a program;
2. Change in participants' knowledge, attitudes, and beliefs about teaching and learning;
3. Participants' teaching performance;
4. Students' perceptions of instructor's teaching performance;
5. Students' learning.

The first two levels examine the impact of the intervention on the participant. At the third level, there is a shift from an internal focus on the participant's affective or cognitive responses to observable changes in teaching actions. The final two

Table 8.2 Levels of assessment used in three reviews of the literature

Levels of assessment	Sample manner by which data may be gathered		
Teacher attitude through self-report	The participants provide their opinion as to the effectiveness of the program via verbal or written feedback forms		
Teacher knowledge from tests or observation	Pre- and post-tests measure the growth in teacher's knowledge about the matters covered in the training program		
Teacher skill from observation	Direct observation detects growth in knowledge		
Students' perception of teaching through self-report	Direct observation of a teacher demonstrating new skills and knowledge in the teaching context		
Student learning from tests or observer reports	Students provide feedback on their teachers' teaching performance (i.e., by way of a standard assessment process or via a more intensive and less structured interview process)	Analysis of student test results	Direct observation of student learning

Note: Wording for the levels of assessment originates from the review by Levinson-Rose and Menges (1981); the word "teacher" is taken to mean the participant in the education development intervention.

levels consider how teaching may influence students and their learning (McAlpine, 2003).

According to the review authors, these categories are indicative of a hierarchy of evidential strength where the strongest evidence for the effectiveness of educational development is its impact on student outcomes. The students' assessment of their instructors' effectiveness comprises the second strongest evidence. When observers, including students, witness an instructor actually applying new skills and understandings in classroom teaching, this provides stronger measures of impact as compared to teachers' acquisition of knowledge from their training programs. The weakest indicator, yet the most common form of evaluation adopted by the educational developers, is feedback provided by participants about the value of their training (Levinson-Rose & Menges, 1981; Prebble et al., 2004; Weimer & Lenze, 1997). Thus, when studies reported a positive and detectable impact from an educational development intervention, more importance was given to studies that used student-based measures of effectiveness, or observation of teaching practice, as compared to those that relied on measures of participant perception, knowledge, or behavior (Prebble et al., 2004).

Finally, each of the reviews drew conclusions about the impact of educational development; their conclusions were similar for categories of interventions that overlapped.

In Levinson-Rose and Menges' review (1981), the authors determined that seminars and workshops, ranging from half-day to weeklong or longer, were the most frequently offered, and least evaluated, type of educational development activity. In the authors' opinion, workshops and seminars are useful to raise awareness and motivate participants, but are the least likely to "produce lasting changes in teaching behaviour or lasting impact on students..." (Levinson-Rose & Menges, 1981, p. 419). Weimer and Lenze (1997) and Prebble et al. (2004) reached largely the same conclusion about the limited impact of short courses, workshops, and seminars on changing teaching behavior. About evaluations that assess at the level of participant attitude, Weimer and Lenze (1997) affirmed: "It does not prove that the programs caused them to change any of their instructional behaviors, nor does it establish any relationship between program participation and significantly improved learning outcomes" (p. 214). Another common observation from the reviews was that improvements in teaching are much more likely to occur when results from student evaluations of teaching are discussed in consultation with an educational developer, in contrast to when instructors simply review the results themselves (Levinson-Rose & Menges, 1981; Prebble et al., 2004; Weimer & Lenze, 1997). Finally, all authors concluded that educational development interventions with the most lasting impacts were those in which participants continued to practice and receive feedback on their efforts over time (Levinson-Rose & Menges, 1981; Prebble et al., 2004; Weimer & Lenze, 1997). Prebble et al. (2004) found that teachers' conceptions about teaching and learning were the most important influence on how teachers teach and maintained that intensive educational development programs—those that typically extend across a semester or more of part-time study and take place apart from the daily work of the unit—can be effective in transforming these beliefs.

Though some studies have shown promising results with respect to the impact of educational development, overall, there is little evidence that our work is having an effect on teaching practice and on improving student learning in higher education (Gibbs & Coffey, 2004; Macdonald, 2003). As Christopher Knapper (2003), one of the founders of educational development in Canada, succinctly reports: “In terms of effects on higher education practice, . . . we would earn at best an A for effort, but probably a C for impact” (p. 7).

As educational developers, we must continuously engage in the scholarship of our own practice (Brew, 2010; Hoessler, Britnell & Stockley, 2010) and rigorously study the impact of our work, especially at the more distal levels of the framework presented in Table 8.2. Doing so helps us better understand how, if at all, we are meeting our primary mission—that of enhancing teaching and learning in higher education. Scholarship into our practice not only provides insight into how we are doing but also helps establish educational development as a legitimate area of study in higher education. In addition, when we are able to prove that what we do has value, it earns us recognition and we more soundly justify our existence both among administrators and a public that is paying for and expecting growing attention to student learning experiences.

Conclusion

The three main areas of educational development work presented in this chapter are causally linked. The effectiveness of our work is enhanced by a knowledge of the scholarly foundations upon which beliefs about good teaching practice are built. Sound evaluations of the impact of our work, informed by theory on program evaluation, will demonstrate this enhanced effectiveness of our programs. Through this facilitation of good teaching practice and rigorous demonstration of its impact on teaching practice and student learning, we position ourselves more strongly to be agents of constructive organizational change.

All of this work is built on a foundation of scholarship. The better we understand this scholarship, the better our work will be in educational development.

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Chapter 9

Examining Pathways to and Through the Community College for Youth and Adults

Debra D. Bragg

Introduction

Increasingly community colleges are envisioned as the place where students, regardless of age, make the transition to and through college to employment. Endorsing this perspective, in 2009 the president of the United States, Barak Obama, unveiled the American Graduation Initiative (AGI) to provide a 10-year, \$12 billion investment in community colleges to boost college enrollment and graduation for the nation. An important goal of this new initiative is to capitalize on community colleges to prepare a competent workforce and strengthen the nation's lagging economy (Mullin, 2010). The president expressed confidence in the contribution that community colleges could make to addressing the nation's recession by stating that, "We will not fill those jobs, or keep those jobs on our shores, without the training offered by community colleges" (as cited in Lothian, 2009, p. 1). Despite the failure of Congress to enact the AGI, changes to the student-loan program that were part of AGI were included in the Patient Protection and Affordable Care Act (PL 111-148) that President Obama signed into law in March 2010. Since that time, the president has continued to advocate for the AGI, calling the student-loan bill a down payment to more federal funding for community colleges. His perspective holds steady that community colleges should serve as the higher education institution of choice to provide more US citizens with college access and credentials.

This chapter examines student transitions to and through community colleges by documenting prominent and emerging policies and programs in the literature, particularly the empirical literature that examines pathways to college and careers for youth and adults. The chapter provides background on the diversity of students that enroll in higher education, and it considers what we know about programs and policies that purport to facilitate youth and adult transition to and through community colleges in preparation for further higher education and employment. The

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centerpiece of the chapter is a review of the literature using the student-centered P-16 accountability model conceived by Venezia (2001, p. 1) to describe what we know about (a) college access for diverse student groups; (b) policies and programs that attempt to connect and align disparate levels of the overall educational system, from pre-kindergarten to graduate level and beyond, referred to as P-20,¹ and (c) efforts at “streamlining” policy signals” (p. 4) to demystify higher education for students matriculating from pre-K-12 education or adult education, particularly students who represent groups underserved by higher education. Finally, the chapter ends with conclusions and implications for policy and research to extend the notion of pathways to national priorities associated with President Obama’s AGI proposal, and other policies and programs that may contribute to enhanced college access, completion, and employment.

Background

Over the last decade, numerous programs and policies have been enacted to overcome fragmented efforts to move students from the pre-K-12 grades to the postsecondary level and into the workplace and address what some authors have called the “educational pipeline” problem (see, for example, Ewell, Jones, & Kelly, 2003; Haney et al., 2004). Among these policies are governmental and institutional attempts to enhance the college and career readiness of students, including the present-day initiative focused on the common core of college and career readiness standards (Conley, 2010; Common Core State Standards Initiative, undated). One of many federal policy initiatives that has implications for college and career readiness and helping students transition from the secondary to postsecondary level and to employment is the federal Carl D. Perkins Career and Technical Education legislation, including its emphasis on programs of study, career pathways, and career clusters. Another federal bill that focuses on youth but even more on adults is the Workforce Investment Act (WIA), which provides funds to train unemployed workers as well as adult education and adult literacy funding to help out-of-school youth and adults enhance their basic literacy skills and prepare for or re-enter employment. With respect to these policy initiatives, community colleges represent a primary and in some cases growing means of reaching diverse student populations. Due to the nation’s current recession, and consistent with cyclical patterns of higher education enrollment when the economy falters, students are enrolling in higher education institutions, especially community colleges, in unprecedented numbers (Fry, 2009). Of all sectors of higher education, community colleges are seeing

¹At the time Venezia’s monograph was published in 2001, the term P-16 was a prominent means of portraying system alignment from pre-kindergarten through undergraduate education. Presently, the favored term is P-20, indicating the beginning of the formal education system at the pre-kindergarten level and extending to the graduate level (and beyond) to depict the overall education system in the United States.

the largest increase in freshman enrollments (Taylor, Fry, Velasco, & Dockterman, 2010).

Many policies and programs intent on transitioning youth and adults to and through the community college envision 2-year institutions as the primary access point—the nexus—for a large and growing number of students who are underrepresented and underserved by the US higher education system. Among many 4-year institutions, particularly those with selective enrollment, these student populations are enrolled in modest numbers and preference often continues to go to students with traditional characteristics (Bowen, Chingos, & McPherson, 2009). However, students defined as traditional by such characteristics as full-time enrollment status and reliance on parents for financial support are declining in number in all types of higher education institutions (Choy, 2002). Non-traditional students, particularly adult students 24 or over who work and provide the primary financial support for their families, are growing despite barriers that impede their enrollment in higher education (Pusser et al., 2007). No doubt, the transition to and through college is challenging for most students on some level, leading some scholars to talk about the “pipeline leakage” problem and major system-level challenges (e.g., confusing standards for college readiness, the disjuncture between high schools and colleges) (Callan, Finney, Kirst, Usdan, & Venezia, 2006); however, the transition to college is especially difficult for minority, low income, and first-generation college-going students who are beyond traditional college age (Park, Ernst, & Kim, 2007).

Reviewing trends in college access and participation, transition to college is rising in the United States; however, there are differences in the rates at which diverse student groups enroll in college and these differences are evident in national trend data. The percentage of high-school graduates who enroll in 2- and 4-year college in the fall immediately after their high-school graduation increased nearly 20% points between 1972 and 1997, from 49 to 67%, then dropped to 62% between 1997 and 2001, before rising to between 67 and 69% between 2005 and 2007 (National Center for Education Statistics [NCES], 2008). However, this trend masks the differential transition rate by racial/ethnic group. Whereas in 2007, the immediate high school-to-college transition rate was 69% for Whites, the immediate enrollment rate for African-Americans was 56 and 64% for Hispanics, showing the difference in immediate enrollment remains high between Whites and minority groups. The reasons for this gap are numerous, with inadequate pre-K-12 academic preparation, structural diversity at the secondary level, limited social networks between high school and college, and financial need being important contributors (Enberg & Wolniak, 2009).

Continuing this discussion of national trends in postsecondary enrollment and their relationship to enrollment by gender, the immediate enrollment rate of female high-school graduates exceeds male high-school completers, with much of the growth of female enrollees occurring at the 4-year level since the ratio of females to males has been higher in 2-year colleges historically. In 2008, 72% of immediate high-school completers who were female enrolled to college compared to 66% of immediate high-school completers who were male (NCES, 2008). By 2003, women received 58% of the bachelor’s degrees awarded in the United States (NCES, 2005)

and they continue to outpace their male counterparts (NCES, 2008). They also receive higher grades and complete their degrees in less time than males (NCES, 2005). One reason for the difference in postsecondary participation by gender is that males have a higher drop rate from high school and therefore fewer are eligible to access college younger in life, contributing to their foregoing college altogether. Buchman (2009) shows the gender advantage for women holds of all race/ethnicity groups and is especially evident for members of the African-American, Hispanic, and Native American groups.

Differences in immediate enrollment rates by family income and parental education persist in the United States, confirming immediate college enrollment is higher for high-school graduates from high-income families than from low-income (Institute for Higher Education Policy, 2010). Low-income Whites fair better than African-Americans and Hispanics in terms of their enrollment in college, due to the higher propensity of members of these minority groups to drop out of high-school relative to Whites. And, whereas a promising trend in the data is the rising rate of college enrollment among low-income minority students, the percentage receiving a postsecondary credential has remained steady over the past decade. The recent report by the Institute for Higher Education Policy (2010) raised important questions about whether these trends are related to mismatched expectations for college aspirations and preparation, unmet financial need, and challenges these students face juggling family, school, and work. Of all underserved groups, those reported in the lowest income group are the least likely to graduate from college (Cabrera, Burkum, & La Nasa, 2005; Choy, 2000). The percentage of low-income students who graduate within 6 years is 54%, compared with 77% for high-income students (Carey, 2004).

Looking at yet another group that has been underserved by higher education historically, Valentine et al. (2009) observed that college enrollment among students with disabilities has increased dramatically over more than a decade, attributing this phenomenon to passage of a number of federal laws including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA) of 1990, and the Individuals with Disabilities Act (IDEA) amendments of 1997 and 2004. Newman (2005) documented that, between 1987 and 2003, the college participation rate of students with disabilities more than doubled, rising from 15 to 32%. Despite the growth in numbers, retention and completion by students with disabilities remain a concern. Based on case studies in six states, the National Collaborative on Workforce and Disability Services (2009) claimed that programs offered by community colleges are more accommodating for students with disabilities than 4-year institutions. However, all programs tended to focus on college access, academic services, and classroom accommodations, paying insufficient attention to retention and completion.

These enrollment trends portray the pervasive gap in college access for students of a range of race/ethnicity, gender, income, and disability status characteristics. They raise the question of what policies and programs support college access, transition, and completion for diverse student groups that often struggle to access and complete college. What policies and programs support access and success for these

students? Assuming innovative solutions can be found, how can we ensure that the P-20 system is accountable to its many stakeholders and constituents while striving to meet students' aspirations to participate and succeed in college? Answering these questions is a necessary prerequisite to finding solutions that can extend the opportunity of college access and succeed to all students.

Part of the solution is in finding better ways to prepare students who desire to transition from high school to college (Callan et al., 2006). Understanding pre-K-12 achievement patterns has potential for understanding patterns of college transition in the United States including the disconnects between students' aspirations, their preparation and their actual college enrollment. Of the approximate 2.5 million public high-school graduates each year, over half aspire to a bachelor's degree despite their lack of engagement in high school-level course work that prepares them for collegiate-level studies. Over 50% of new college entrants take remedial courses, many in multiple subjects (Attewell, Lavin, Domina, & Levey, 2006). Referencing national statistics that show that the figure for college completion has reached an all-time low for several consecutive years, Venezia (2001) has argued that the disconnect between student aspirations and academic preparedness contributes to large percentages of students lacking the requisite skills they need to enter college and the high incidence of leaving college before the second year. The historical gap between pre-K-12 and higher education, and the subsequent lack of communication, working relationships, and accountability between the educational sectors, exacerbates problems that students experience as they attempt to transition to and through college. While difficulties accessing college are evident for traditional-age college goers, adults also experience high rates of remediation that create difficulties for their success in college (Jenkins & Boswell, 2002).

Measures of adult literacy in the United States consistently point to gaps in functional literacy: literacy that pertains to adults performing a wide range of tasks associated with their daily lives. Over a decade ago, the 1992 National Adult Literacy Survey (NALS) (Kirsch, Jungeblut, Jenkins, & Kolstad, 1993) surveyed over 13,000 adults, with results weighted to represent the total population of persons age 16 and over in the US population. Results show about 14% of respondents fall into the below basic literacy level, while another 21–23% demonstrate skills in the basic proficiency level in prose, document, and quantitative literacy.² These figures remained relatively constant over the decade of 1993–2003 (Kutner et al., 2007), showing a substantial proportion of the US adult population continues to exhibit deficiencies sufficient enough to compromise their ability to engage in secondary and postsecondary education, employment, and other economic opportunities. Whereas about a quarter of this group consists of immigrants with limited English-speaking experience, the majority is native-born speakers, with nearly two-thirds having dropped out of high school and over two-fifths living in poverty.

² The NALS study developed three scales to determine the literacy status: prose literacy, document literacy, and quantitative literacy. Within each scale the levels of proficiency ranged from level 1, the lowest, to level 5, the highest. Adults' scores tended to fall at the same proficiency level across all three scales, even though the skills measured differed across the scales.

Moreover, adults functioning at lower literacy levels reported working fewer hours and receiving lower weekly earnings than adults performing at higher literacy levels.

Results of the NALS (Kirsch et al., 1993; Kirsch, Braun, Yamamoto, & Sum, 2007) show several demographic groups are overrepresented in the below basic category, however, the most vulnerable of all adult groups are individuals who do not speak English before entering school, who are members of the African-American and Hispanic minority groups, and who have multiple disabilities. Results also show adults who discontinue schooling and receive their high-school diploma or GED between the ages of 20 and 24 score lower in literacy than those who complete by age 19. These findings suggest the importance of better educating adults at all levels including providing them with programs and services that are carefully designed to help them transition into college as well as employment.

In more recent research, Levy and Murnane (2006) reinforce findings from NALS, showing adults who display the lowest levels of literacy work fewer hours, earn lower wages and are more likely to live in poverty than adults at higher literacy levels. They also found workers with the lowest levels of literacy have the fewest opportunities for training and employment, and the jobs they obtain are less stable and seldom pay a family-living wage. Along with other researchers and policy analysts, Jenkins (2006) and others have recommended community colleges offer new curricular pathways, called career pathways, to enhance educational and economic options for adults. In line with the President Obama's call for the role of community colleges to grow in enrolling and completing more students, Jenkins argues that community colleges are the venue for educating more students post-high school as a means to strengthen individual and societal economic circumstances saying, "In a global economy, communities will thrive or decline based on how well they do to ensure sufficient numbers of high-value jobs and an ample supply of 'knowledge workers' to fill them" (p. 4). The growing need for adults to secure literacy training, coupled with the growing demand for increased literacy levels, presents a challenge to government officials and educators to close the skills gap (Mazzeo, Rab, & Alssid, 2003), offering a complimentary reason for supporting community colleges as the venue for increasing college enrollment and completion.

Combined with changes in the labor market that deem at least a 2-year college education vital to family-wage employment (Berker & Horn, 2003; Carnevale & Desrochers, 2001; Carnevale, Smith, & Strohl, 2010), the need for equitable transition to college for underserved groups highlights the need to better align secondary and postsecondary education. Misaligned policies and programs that confuse youth and adults, particularly those who are unfamiliar and inexperienced with college, are unlikely to result in increased access to and through higher education. Many students struggle with determining what they need to know and be able to do to enter and succeed at the postsecondary level. Given the necessity for more youth and adults to participate in college, some states have begun to recognize the importance of transition through the educational pipeline, particularly the transition from high school to college (Kirst & Venezia, 2004; Venezia, Callan, Finney, Kirst, & Usdan, 2005). Efforts to enhance college and career readiness of high-school graduates have grown in recent years, including legislative policies and programs addressing college and

career readiness adopted by such states as the states of Illinois (Khan et al., 2009) and Texas (Conley, 2010). Despite these potentially promising developments, state and local institution responses to connect the disparate levels of the educational system take different forms, complicating research and evaluation on their impact and benefits. The limited knowledge of solutions that prevent students from falling through cracks in the educational system is disconcerting.

Representing an early voice in the P-20 education system alignment movement, Hodgkinson (1999) argued a fully integrated education system is a single entity that promotes student achievement and educational attainment from the primary grades through college. According to several other researchers and policy analysts who followed his footsteps (see, for example, Haycock & Huang, 2001; Van de Water & Rainwater, 2001), a P-16 (or P-20) framework is a way to reach more learners and enhance education system efficiency and effectiveness. By creating a P-20 educational system that operates as one, the system is better able to prepare students to advance from one level to the next and find employment linked to personal and financial success. In an earlier work conducted by the National Center for Higher Education Management Systems (NCHEMS), Ewell (2004) reported as many as 30 states implement P-20 state policies to raise pre-K-12 standards and enhance the academic preparation of students who desire to enroll in college and enter the workforce, and this number is bound to have grown over the latter half of this decade. Alignment of curriculum, standards, and assessments represent important means of linking pre-K-12 education with higher education and creating the potential for more youths and adults to transition to college ready to learn and complete their studies with postsecondary credentials. Without deliberate efforts to connect the system in serious and meaningful ways, many students, particularly historically underrepresented and underserved students, will continue to struggle with accessing and completing college.

Conceptual Framework

Van de Water and Krueger (2002) suggest the fundamental goals of P-20 education are to improve student achievement at all levels and close the gap among groups of students who have had differential opportunities to participate in college by raising standards, requiring assessment, and demanding accountability. The underlying assumption is that students who are prepared for college are more likely to transition to, persist in, and finish college, and also make a successful transition to the workplace. Theoretically, policies that encourage the integration of aligned curriculum with content, standards, and assessment produce students who are better prepared to transition to college, to persist and secure credentials, and to obtain viable family-wage employment. Conversely, misaligned policies and programs impede student transition to college, especially for students who are marginalized by the educational system and who lack fundamental knowledge about how to go to and be successful in college.

Introducing a P-16 accountability framework to address implementation issues at the state and local institutional levels, Venezia (2001) recommended that the overall educational system adopt three foci to improve coordination and efficacy and serve the needs of all students who seek and deserve the opportunity to attend college. Whereas her thinking was focused on student transition from pre-K-12 to higher education, her theory, at least on the surface, appears to apply equally well to adults. The three foci of the P-16 accountability framework are as follows: (a) to increase access by closing the achievement (performance) gaps between different student groups; (b) to connect and align curriculum, standards, and assessments; and (c) to “streamline policy signals” to clarify for students what academic competencies (skills and knowledge) are required to be admitted and placed into college-level course work (p. 4).

Though signaling related to employment was not mentioned in Venezia’s model, it plays an important role in student transition to work, a complimentary topic discussed in this chapter. In this regard, Rosenbaum (2001) observed that employers use cues sent by the educational system to determine whether graduates are a match for their workforce. He contends the signals that schools send to employers influence student transition to college and careers, noting the miscommunication of signals sent by education to employers can contribute to inequities for students who enter the labor market or higher education. While the views of Venezia and Rosenbaum differ substantially on the importance of college, with Venezia advocating to make college more universally available to all high-school graduates and Rosenbaum questioning the relevance of college for students who prefer a direct path from high school to work, both authors recognize the importance of signals that the educational system sends to students about their post-high-school options.

Looking first at college access, Venezia’s (2001) P-16 accountability framework points to inequities in pre-K-12 achievement that contribute to students’ difficulties in accessing college. She argues P-16 systems fail if college is not a viable reality for all students, not only for students who have traditionally enrolled in college, including students who are White and from families with higher income and higher parental attainment (i.e., students who are not first-generation college). She argued that fundamental inequity in college preparation, especially in core academic subjects like math, science, and English, dramatically affect college options. Her research speaks most directly to high-school age yet underserved students who seek to transition to college, but the implications of her concerns are relevant to adults, especially those who have left the educational system and who later seek to re-enter higher education through adult education and adult literacy programs. She contends minority, low-income, and first-generation college students are disproportionately impacted by the misalignment between levels of the educational system and that these inequities need to be addressed by making system-wide improvements in policy and programs, including college preparation courses and programs; curriculum alignment, assessment, and accountability; and student admissions, placement, and completion.

Second, Venezia (2001) observed that the fragmentation of the educational system and disconnects between pre-K-12 and postsecondary education are endemic

and especially problematic for underserved students. To rectify structural problems, Kirst and Venezia (2004) emphasized alignment of pre-K-16 policies to support curriculum articulation that facilitates students progressing to learn subsequently advanced content without repeating course work that loses time and momentum and increases cost in tuition at the postsecondary level. Basing their recommendations on results of the Bridge Project, a multi-state, multi-year study that examined the alignment of systems, policies, and programs associated with high school-to-college transition, the authors emphasized the importance of systems-level solutions to address the challenges faced by substantial numbers of high-school students who seek to attend college. Their work showed that higher education sets standards for curriculum and determines assessments and cut-off scores for college placement without adequate consideration of the rest of the system, particularly the pre-K-12 level. Similarly, the pre-K-12 level determines curricula taught at the elementary, middle- and high-school levels without seeking to understand college entrance standards, the demands of college coursework, and the ramifications for students if their prior course taking does not align with college curriculum. As a result, the curriculum and standards of high schools and colleges are inadequately aligned, contributing to students' lack of readiness for college or careers.

Looking at similar concerns for misalignment between adult education and postsecondary education, Reder (1999) observed a wide gap between adult basic education (ABE) and postsecondary education, and more recent research by Berker and Horn (2003) confirms this assertion for the large and growing group of adults who work and attend college. These studies show the disconcerting misalignment for adult learners who work with being retained in college and completing credentials. Like their youth counterparts, many adults find the transition to higher-education treacherous terrain, contributing to their difficulties entering college or, once there, dropping out because of the inability to navigate college, often due to their lacking the requisite skills and knowledge to make a successful transition to college and be successful learners once they get there.

Third, Venezia (2001) recommended to “streamline policy signals to create a less confusing environment for students, their parents, and [pre-]K-12 educators (who often grapple with trying to stay abreast of constantly changing postsecondary admissions and placement policies)” (*parentheses those of the author*, p. 4). Venezia (2001) as well as Rosenbaum (2001), Rosenbaum, Deil-Amen, and Person (2006), and Kirst and Venezia (2004) argue for the importance of streamlining and communicating clear signals about a wide range of policies and programs pertaining to improving students' readiness for college. Specifically, Kirst and Venezia (2004) argue for “clear, consistent, and reinforced signals that will enhance the college knowledge of prospective students in secondary school” (p. 19). For them, signals are closely aligned with incentives that provide “extrinsic motivation” (p. 19), noting student transition to college happens unequally by income and racial and ethnic group. Similarly, Reder (1999) noted the importance of clear signals to adults about the importance of college as a route to securing credentials that have value in the labor force, noting Adult Basic Education (ABE) and General Equivalency Diploma (GED) programs often fail at preparing adult learners with needed

competencies to transition to postsecondary education successfully, and, as a consequence, ABE and GED programs lack credibility as means of preparing adults for college.

Discussion of the Results

A literature review was conducted to identify research results on transition to, through, and from the community college. The review includes quantitative and qualitative studies, including research relying on secondary analyses of national- and state-level datasets as well as researcher-developed datasets. This discussion summarizes research results about what we know about the transition of youth and adults to college. The two sections use Venezia's (2001) P-16 accountability framework to summarize results pertaining to youth transition and then studies focusing on adult transition.

Transitions by Youth

Community colleges have a long history of providing access to higher education for a wide spectrum of the US population, including individuals who have had no prior experience in their families with college and who never considered college as an option. In fact, students who attend community colleges are some of the most racially, ethnically, and economically diverse of all students in higher education (Bailey & Morest, 2006). To address their students' needs, community colleges offer a wide array of curricular options, ranging from liberal arts-baccalaureate transfer to career and technical education, to continuing education for non-credit (Bragg & Townsend, 2007). The characteristics of graduates of the pre-K-12 level who enroll in community colleges run the gamut, from those who have participated in a rigorous college preparatory (college prep) curriculum to those who engaged in coursework offering minimal academic intensity (Adelman, 2006).

Drawing on national data to point to the inequity in academic preparation of pre-K-12 students, Haycock (2006) and others have shown that racial and ethnic minorities and low-income students are far less likely to enroll in college prep curriculum during high school that will prepare them for college than White upper income students, partially because of structural inequities in the pre-K-12 system. Students failing to complete college prep curriculum at the pre-K-12 level often lack the academic competencies needed to meet college admissions requirements, pass college entrance exams, and enter college ready to learn. In an increasingly competitive higher education environment, students enroll in community colleges for many reasons but one is their lack of preparation to qualify them for admission to other sectors of higher education. Increasingly, these students turn to the community college to upgrade their academic competencies and forge a plan to secure future college and career options.

An investigation of the 50 states' high school-to-college transition initiatives, referred to as Academic Pathways to Access and Student Success (APASS),

investigated various academic pathway models and approaches employed throughout the United States (Bragg & Barnett, 2006). The authors defined academic pathways as “boundary-spanning curricula, instructional and organizational structures, and meaningful assessments that either link or extend from high school to college, including both 2-year and 4-year institutions” (p. 6). The extent to which these models encourage college access by reaching underserved students was an important question of the study, including understanding the role community colleges play in supporting student transition to college and careers. Of the various academic pathways examined, Advanced Placement (AP), technical preparation (tech prep), and adult bridge programs were reported by state officials as the most widely implemented in the 50 states. These three pathway options were also the most highly aligned with the goal of reaching and enrolling underserved students, according to state officials. While AP was widely used and applicable to students who took the AP exams and presented their scores to colleges to qualify them for college credit, other models seemed more integral to community college’s efforts to support enhanced transition for underserved learners; therefore they are the focus of this chapter.

Dual enrollment/dual credit^{3,4} is an academic pathway model that is proliferating rapidly in the United States, and potentially closely aligned with enhancing access for historically underrepresented and underserved learners (Karp & Hughes, 2008a, 2008b). Despite such claims, which are pervasive in the literature, a national survey of high schools showed dual credit programs favor students attending larger and less ethnically diverse secondary schools (Waits, Setzer, & Lewis, 2005). A related model, the Early College High School (ECHS) or Early Middle College High School (EMCHS), targets underserved students in grades 9 and 10 to participate in rigorous coursework that offers sufficient dual credit to accelerate their graduation from high school and propel them toward a college degree more quickly than the typical 4 years of high school plus 2 or 4 years of college would require (American Institutes for Research and SRI International, 2009). To date, most of the institutions (high schools and colleges and universities, primarily community colleges) implementing this model have depended on external funding. Therefore, this model is not as widely implemented nationwide or as extensively researched as some of the other models.

Looking at the multiple models emerging to assist high schools to transition students, including such models mentioned above as AP, dual credit, tech prep, ECS, and others, Hughes and Karp (2006) and Hughes, Karp, Fermin, and Bailey (2005) reported similar results to the APASS study (Bragg & Barnett, 2006) in their

³In this paper, dual enrollment refers to student enrollment concurrently but distinct high school and college-level courses that each generate credit appropriate to their respective level. Dual credit means students take one course that generates both high-school credit and college credit.

⁴Admittedly, dual enrollment and dual credit are used interchangeably in the literature, but dual credit is chosen as the preferred term herein to reinforce that students awarded dual credit upon successful completion of the same course receive credit at both the high-school and college level (for further information on the definition of terms, see Kleiner, Lewis & Greene, 2005).

investigation of various curricular pathways that link pre-K-12 education to college, which they refer to as credit-based transition programs (CBTPs). Their research on the implementation of CBTPs confirmed the growth of a number of different models and approaches, particularly dual credit. Their research also observed the increasingly prominent role of community colleges in partnering with high schools to deliver these models, linking this growth to their propensity to enroll diverse learners and their willingness to deliver programs that deliberately link college to the workforce.

Several emerging models that focus on high-school students' transition to the community college also emphasize college and career preparation, particularly models that emphasize career and technical education, tech prep, and other school-to-work programs where community colleges have been advanced as leading P-20-oriented curriculum reforms. In addition, several models and programs offering dual enrollment and dual credit have viewed community colleges as an integral collaborator, advancing these institutions as the logical partner for high schools attempting to increase college-going options for their graduates. A growing body of literature suggests that dual credit is proliferating nationally and that student enrollment is rising as well (see, for example, Karp, Calcagno, Hughes, Jeong, & Bailey, 2007; Kleiner & Lewis, 2005; Waits et al., 2005). Reflecting this literature, this section examines empirical evidence of the impact of models that emphasize college and career readiness with a commensurate goal of helping youth to transition to and through the community college.

College Access

Who are the students who participate in high school-to-college transition programs situated in part or exclusively in the community college? Though profiles of students enrolled in high school-to-community college programs are fairly limited, information is probably most prevalent for the tech prep model because of its longevity, beginning with funding from the federal Carl D. Perkins legislation in 1990. In a study of students who participated in tech prep, Bragg et al. (2002) found students participating in tech prep programs in eight states did not differ on race/ethnicity and several other demographic characteristics from a comparison group of non-participants who were matched on cumulative high-school percentile rank. The demographics of the tech prep participants were reflective of the racial/ethnic communities in which the students resided. However, some demographic characteristics did emerge to distinguish tech prep students from the comparison group. First, tech prep participants came from families with lower income and lower parental education levels than their comparison group counterparts. Gender was another distinguishing characteristic, with a higher percentage of tech prep participants being male in four of the eight sites studied. These results reflect a persistent gender bias that accompanies secondary career and technical education programs that are affiliated with tech prep wherein male-oriented fields that offer technical training, technician education, and trade-related programs continue to prevail (Wonacott, 2002).

Bragg, Loeb, and colleagues (2002) also found part- or even full-time jobs were prevalent among high-school students enrolled in tech prep, and so too among the non-participant group. Students engaged in high school-to-college transition programs have often already begun employment, in part because of the need to generate income to support themselves and their families (see, for example, Weller, Kelder, Cooper, Basen-Engquist, & Tortolero, 2003), leading these students to begin juggling school, work, and personal commitments even before they reach high-school graduation. It should also be noted that some of these students also assume the role of parent before leaving high school, adding even more adult and familial responsibilities. Taken together, these personal, academic, and employment factors are known to correlate with college retention problems, placing students enrolled in transition programs that focus on college and careers at risk of dropping out.

These findings parallel results of a secondary analysis of the National Longitudinal Survey of Youth (NSY97) by Stone and Aliaga (2007) who found a higher percentage of secondary tech prep and career and technical education students were male, lower income, and with lower parental education than the comparison group of all students. However, differing from the Bragg et al. (2002) study, Stone and Aliaga showed higher enrollment among African-Americans than the comparison students. Results of the latest National Assessment of Vocational Education (NAVE) (Silverberg, Warner, Fong, & Goodwin, 2004) observed similar patterns for career and technical education students compared to students enrolled in other academic programs at the sub-baccalaureate, postsecondary level. Besides the confirming results on gender, Silverberg et al. reported that career and technical education students tended to be more economically disadvantaged and to be first in their families to attend college (i.e., first-generation college), and also to be less prepared academically for college compared to the general population of postsecondary students.

Neumark and Rothstein (2007) used the NLSY97 dataset to estimate college attendance among tech prep and school-to-work (STW) participants, focusing on students who self-reported involvement in various STW activities such as co-op, internship, and tech prep. This study included students labeled the forgotten half, which the authors defined as the bottom half of the distribution of students on the probability of college attendance. Examining a number of demographic characteristics, they concluded “STW program participation is particularly advantageous for men in the forgotten half with respect to both schooling and work-related outcomes” (p. 125). Some the STW activities, for example, mentoring and co-op education, had a stronger effect on schooling-related outcomes for students associated with the forgotten half, and some had a stronger effect on employment outcomes, particularly for students enrolled in tech prep and co-op programs. The authors recognized the limitations of analyzing large national datasets that aggregate student participation in a wide range of STW programs; nonetheless, the authors felt confident enough of their results to claim that STW programs hold promise for forgotten half students, many of whom are demographically diverse and economically disadvantaged.

Looking at another academic pathway that seeks to serve diverse learners, studies of Early College High Schools (ECSs) and Early Middle High Schools (EMHSSs)

show this model is enrolling a substantial number of low income and minority students, and that many of these students are well served at the high school and college levels by participating in these programs. The most recent report of a 6-year evaluation of ECSs funded by the Bill and Melinda Gates Foundation, conducted by American Institutes for Research and SRI International (2009), showed 69% of students enrolled in ECSs are minority, 59% are low income, 46% are first-generation college, and 10% are limited English proficient. Despite these characteristics, students enrolled in these ECS programs tend to outperform district average performance on a number of secondary indicators, including grade point average (GPA), academic engagement, and attendance.

System and Curriculum Alignment

As discussed previously in this chapter, the alignment of curriculum and assessments is often haphazard between pre-K-12 and higher education, and yet, if access to college is to be more universal, a concerted effort at alignment of coursework and assessment policies and procedures is needed (Callan et al., 2006). Curriculum alignment has been an evolving aspect of high school-to-college transition models that emphasize the articulation of academic with career and technical education curriculum from the high school to the associate degree (Lekes et al., 2007; Valentine et al., 2009). Referencing again the study of tech prep by Bragg et al. (2002), secondary curriculum requirements varied widely among the eight tech prep programs studied, with some aligning closely with college prep secondary graduation requirements and others requiring very modest academics.⁵ In the latter case, the courses taken by tech prep students emphasized career and technical education and downplayed college prep, replicating vocational courses linked to tracking in comprehensive high schools (Oakes & Saunders, 2008).

These results suggested school level and consortium level course requirements matter in students' choices of high-school courses and may influence their behavior associated with the transition to college. When student participation in core academic courses was linked to rigorous course requirements, the students took more academic courses and they advanced to higher levels in the academic curriculum. Thus, consortia that associated tech prep with college prep requirements in visible ways (for example, aligning tech prep with college prep math and science) enrolled more tech prep students in advanced math- and science-courses than consortia that did not emphasize these courses (this finding aligns with a later discussion in this

⁵Silverberg et al. (2004) confirmed the variability of tech prep programs nationally indicating the only common programmatic element that could be identified in the NAVE study was student enrollment in one career and technical education course that was articulated with the postsecondary level. Such findings have raised concerns about the integrity and replicability the tech prep model, which precipitated changes in the 2006 federal legislation that allowed states to continue to fund tech prep implementation separate from career and technical education or to integrate it into general career and technical programs.

chapter about how clarity about course requirements can signal to students what academic competencies are needed to enroll in college).

In a secondary analysis of the tech prep dataset compiled by Bragg et al. (2002), Bragg, Loeb, Yoo, and Zamani-Gallaher (2007) found tech prep participants took slightly more advanced math courses over their time in high school than the comparison group of non-participants in four consortia. In these four, tech prep participants took at least as many advanced academic courses as the comparison group of students who graduated with similar academic performance and in some cases more, and these students were more likely to make the transition to the community college needing less remedial course work. In reviewing these results, it is important to observe that the original Bragg et al. (2002) study examined tech prep participation and student outcomes in consortia that made a deliberate commitment to implement the tech prep model as a primary vehicle for high-school reform. These sites viewed tech prep as a means of implementing comprehensive reform intended to influence and shape broader curricular changes at the pre-K-12 level that was articulated with community college curriculum. Speculating, if more high schools and community colleges had integrated rigorous academics and career and technical education fully, as the best of the consortia in this study did, the tech prep model may have had a deeper and wider impact nationally, a similar conclusion reached by Silverberg et al. (2004) who conducted the National Assessment of Vocational Education (NAVE).

Stone and Aliaga (2007) and DeLuca, Plank, and Estacion (2006) studied students enrolled in high school-level integrated academic and career and technical courses who they called dual concentrators. By dual concentrator, these authors meant students who enroll in a rigorous college prep curriculum while also taking a sequence of career and technical education courses. Results of analysis using national longitudinal datasets showed dual concentrators experience a number of positive transition outcomes as long as the career and technical education courses do not dominate the students' high-school program of study. Career and technical education courses that compliment academic course-taking is beneficial; however, a secondary program made up of too many career and technical education courses lessens college transition outcomes. Besides positive academic outcomes, dual concentrators benefit from exploring their career interests, which helps them formulate initial ideas about a college major and desired career field to pursue after college.

Lekes et al. (2007) studied students who participated in career-technical transition programs in two regions of the United States analyzing quantitative and qualitative data to ascertain students' high-school academic achievement, their transition from high school to community college, and their secondary and postsecondary outcomes, including academic achievement, retention, and credential attainment. With respect to academic achievement, career-technical transition students in both sites scored significantly higher than their matched non-career-technical counterparts on the Reading for Information subtest items of ACT WorkKeys, although the group differences were not evident on the ACT Applied Mathematics subtest items or on overall GPA at high-school graduation. A significant difference was noted, however, between the two groups on dual credit course taking, with career-technical transition students taking more than non-career-technical students.

In one site where the curriculum emphasis was on information technology/computer information science (IT/CIS), an interaction effect was found between high-school IT/CIS participation and math course taking and also between IT/CIS and science course taking, favoring the IT/CIS student group in schools rated as medium engaged in offering high school-to-college transition strategies. This finding offers insights into the impact that school-level commitment can have on academic course taking and academic performance for students enrolled in college transition programs that include career and technical education and dual credit. Neither the lesser engaged high schools, where minimal attention was paid to college transition, nor the highly engaged high schools, where whole school reform was emphasized, produced students with the same positive results as the students enrolled in medium engaged high schools. In these schools students were given the opportunity to integrate college prep math and science coursework with career and technical education, which produced positive results on various measures of academic performance for career-technical transition students relative to the non-participant group. These results point out an important relationship between institutional commitment to curriculum alignment and positive transition outcomes for students preparing to transition to the community college.

Looking at system alignment utilizing the dual credit model, Karp et al. (2007) used state-level longitudinal data to assess the impact of high school-to-college transition programs in Florida and New York City. They studied dual credit programs, comparing a sample of high-school students whose enrollment included career and technical education to a group of students who did not take these courses. Noting claims of superior transition outcomes in the literature for dual credit but little empirical evidence, Karp and colleagues' multivariate analysis included using controls for student characteristics in modeling a number of outcomes, including the likelihood of enrolling in college, college GPA, and postsecondary credits. Special attention was paid to students participating in career and technical dual credit courses in both sites.

Looking first at results in Florida, Karp and colleagues found a positive relationship between student enrollment in dual credit courses and outcomes labeled short- and long-term for the whole sample of students enrolled in dual credit as well as the sub-sample of students that took career and technical courses. These findings also show a positive relationship between dual credit and earning a high-school diploma and enrollment in college for the whole sample and career and technical education sub-sample. For students who matriculated to college, dual credit was positively related to the likelihood of enrolling full-time, to persisting for a second semester, and to having a higher GPA after 2 years of college and throughout the postsecondary studies. Surprisingly, the intensity of dual credit enrollment, referring to the number of dual credit courses taken, was not related to postsecondary outcomes in the Florida sample, meaning taking one dual credit course was equally as impactful as taking four, five, or more.

Expanding their analysis beyond Florida to New York City, Karp et al. (2007) studied graduates of 19 vocational high schools who enrolled in CUNY in 2001 and 2002, a sub-sample of which participated in *College Now*, a program focused

on helping high-school students “improve their high school performance and get a head start on college” (CUNY College Now Central Office, undated). Though the results for this analysis were not as comprehensive as for Florida, they were equally as encouraging. They show *College Now* participants were more likely to pursue a bachelor’s degree than their peers and their participation in *College Now* was related to first-semester GPA and progress toward a degree. Unlike the Florida students, the *College Now* study showed some positive relationship between program enrollment and the intensity of participation in dual credit, with *College Now* participation and first-semester GPA favorably impacted by taking two or more dual credit courses. Karp and colleagues speculated that the intensity of participation in dual credit was more important for long- than short-term outcomes, including for persistence to the second year of college, GPA after four semesters, and progress toward a degree.

When examining the question of alignment, college placement is one of the most serious issues facing students transitioning from high school to college (see, for example, Adelman, 2006; Callen et al., 2006). Uniformly, studies of high school-to-college point to problems with students matriculating without the requisite skills and knowledge to enter collegiate-level studies. Looking at empirical studies that have examined college readiness an essential dimension of curriculum alignment, Bragg et al. (2007) examined college readiness for tech prep participants compared to non-participants and found differences in the need for remediation was related to differences in academic intensity in that higher-level academic preparation in high-school predicted college readiness in mathematics and English. Albeit a promising finding, further analysis showed college readiness differed by race/ethnic group membership, favoring White students. In two sites offering some of the most intensive academic course requirements, there was a significant difference between White and African-American students on college readiness, controlling for other student characteristics. In both sites, African-American students were more likely to require remediation at the community college level than White students, suggesting participation in academically rigorous curriculum is not distributed equally by race/ethnicity. Based on their increased likelihood of having to enter college taking remedial courses, African-American students were disadvantaged on other transition outcomes such as progress to degree and college completion relative to Whites.

Results of the Lekes et al. (2007) study on students enrolled in dual credit and career-technical courses found a similar pattern on community college transition, wherein African-American and Native American students were disadvantaged on college readiness relative to White students. Findings in both of these studies emerged only when multivariate analysis was used, pointing to the necessity for using advanced statistical analytic tools to understand transition effects for diverse student groups. These findings also point to the importance of understanding the academic requirements that local institutions (high schools and community colleges) expect of students, showing how different requirements can have a detrimental effect on underserved student populations despite the intention to implement college transition programs that serve diverse students.

Also drawing on the dataset compiled by Bragg et al. (2002), Kim (2006) and Kim and Bragg (2008) examined the impact of dual and articulated credit on college readiness and total credit hours in four of the eight original consortia. Using Astin's (1991) input–environment–output model, Kim investigated the relationships among student input variables such as gender, high-school percentile rank, tech prep participation, and high-school course taking; the environmental variables of academic courses, career and technical education courses, and total dual credit and articulated credit courses; and the output variables of college readiness and total credit hours. Results support the positive impact of academic dual credit and articulated credit on college readiness. This analysis also showed that dual credit courses in math and science were related to math readiness, whereas articulated career and technical education courses were related to reading and writing readiness. Controlling for student characteristics, a significant positive relationship was found between high-school students receiving articulated course credit and total college-credit hours in two sites. Results also showed the quantity and rigor of high-school course taking, particularly in math, was influential on college readiness defined as students entering community colleges without needing remediation. High-school students who took more semesters and more advanced math were more likely to be college ready in math and reading when they transitioned to the community college.

Finally, with respect to curriculum alignment, it is important to recognize that the educational pipeline that leads students from high school to the community college need not stop with an associate degree. The transfer function is a uniquely important aspect of the community college mission, and despite its critics (see, for example, Brint & Karabel, 1989), there is conflicting evidence about the effect that transfer has on the progression of students from community college to the university and the likelihood of community college transfer students to receive a baccalaureate degree. Given the importance of the community college as a route to further higher education for all students but especially minorities that tend to begin their higher education at the community college, the question of the effectiveness of the transfer pathway from the community college to the university is important.

Melguizo and Dowd (2009) make an important contribution to the literature in an analysis that challenged the critics' contention that community college students are diverted from pursuing further higher education and receiving a bachelor's degree. The authors point to flaws in prior single-stage regression models that do not adequately account for self-selection bias and the effects of unobservable student characteristics on educational attainment. Melguizo and Dowd studied the impact of being a transfer student on individuals with low socioeconomic backgrounds, and they also examined the effect of the selectivity of the 4-year institution attended on the graduation rates of all students. They found the negative effect of being a transfer student compared to being a rising junior diminished substantially after controlling for differences in socioeconomic status (SES). The negative effect was no longer statistically significant after self-selection bias variables measuring state-level transfer policy where students enrolled in college were controlled. This study also showed degree completion rates increased with the selectivity of the 4-year institution attended. In addition, the bachelor's degree gap between transfers and

rising juniors diminished with higher levels of institutional selectivity. Finally, the results showed that when the effects of community college attendance were allowed to vary by SES by introducing an interaction term, there were no statistically significant differences between the completion rates of low-SES transfer and low-SES rising junior students. These results offer new knowledge concerning transfer from the community college to the university. Taking into account student income levels and institutional selectivity, these results suggest the penalty for starting at a community college is overstated in the empirical literature. The implications of this study are that transfer is an important component of the pathway to and through the community college because it extends educational attainment to the baccalaureate degree. For diverse students who are more likely to start their collegiate studies at a community college than a 4-year college or university, this finding confirms the importance of community colleges continuing to emphasize transfer opportunities.

Streamlining Signals

Kirst and Venezia (2004) drew attention to the problems with educational institutions sending clear and decipherable signals to students about their preparation for and readiness for college as part of their national study. Bueschel and Venezia (2006) extended this work to community colleges when they noted that the open admission policy “sends confusing signals” (p. 31) to students who enter higher education. They observed that the open-door mission confuses high-school students and contributes to their belief that any level of preparation in high school is acceptable for successful college participation. They also point to high-school teachers and counselors who are unaware of the college placement tests given by community colleges and their implications for student placement in remedial versus college courses. Related to this work, research conducted by Deil-Amen and Rosenbaum (2002) and Rosenbaum et al. (2006) and Deil-Amen and Rosenbaum (2002) sought to understand the difficulties students face when community colleges fail to inform students properly about remediation. They investigated the sources of this problem, contending that the negative stigma of remediation contributes to a lack of full disclosure about the remedial curriculum and students’ course placement. Their research suggests a lack of information about how remediation works contribute to students making ill-informed choices and leads to “unintended consequences” (p. 70) in that students are cooled out (Clark, 1960) rather than being “warmed up” to stay in college. They acknowledge balance is needed between informing and discouraging students, but they argue community colleges have not found the right balance and that minority students are penalized as a consequence.

In another way, community colleges have contributed to clouded signals regarding student transition. Despite their commitment to tech prep, community colleges have sent unclear signals to students about tech prep programs (Silverberg et al., 2004). Bragg et al. (2002) observed that nearly all of the tech prep consortia studied sent students confusing messages. Despite having an explicit goal of connecting students to college, high-school administrators and teachers were hesitant to use

the tech prep moniker for fear that it would be associated in the minds of students and parents with being less than college prep. Despite one consortium's location within a state that had adopted "college tech prep" explicating the integration of college prep and tech prep, local administrators avoided associating students with tech prep except by auditing transcripts after high-school graduation when it was too late to explain to students that they had participated in a tech prep program of study. Except through inference, students were unaware that their educational experience in high school was designed to prepare them to transition to the community college. The extent to which student knowledge of the goals and components of a transition program such as tech prep relates to decisions to attend college and subsequent transition outcomes is unknown, but the theory of signaling proposed by Venezia (2001) suggests what students know matters, particularly for diverse learners who have little prior experience in their families with college.

Finally with respect to signaling, it is important to observe that in contrast to tech prep, dual credit seems to send a clear signal to students seeking to transition from high school to community college, particularly if results comparable to Karp et al. (2007), Kim (2006), and Lekes et al. (2007) are replicated in other sites and with other diverse students. Explicit in its awarding of college credit, dual credit courses may be a potentially powerful source of information about a students' academic preparation for college since they are successful or not in performing in courses that award college credit. In addition, dual credit offers a financial incentive for students as well as their parents, which may compliment signals about academic competencies required to be college ready. By note of caution, however, in discussing results associated with dual credit in the national field study of the Community College Research Center (CCRC), Morest and Karp (2006) observed potential for growth of dual credit but they offered mixed results from an equity and access standpoint. They noted career and technical education courses offered the most evidence that underserved students were benefiting from dual credit enrollment, but they considered these results preliminary and they called for more systematic studies of student progression from high school to college.

Transition by Adults

Adults make up a substantial proportion of students enrolled in community colleges. In fact, by most accounts, over half of students enrolled in community colleges are beyond traditional college age and classified as adult learners. Levin (2007) pointed out the ambiguity in definitions associated with adult learners in higher education noting, "adult education is defined in mainstream scholarship and reported as any activity where the participants are adults—usually 24 years of old or older" (p. 7). He argues that this definition falls short of capturing the complexity of personal characteristics and educational experiences that adults bring to the classroom. Offering a number of ways to portray adult learners who are "non-traditional" (p. 10) on various dimensions, Levin observes that categorizing adults by demographics is less than satisfactory because these profiles provide an

incomplete and erroneous picture of the uniquely important dimensions of adults' fuller lives. Classifications based on occupational status, employment status, enrollment status, income status, and risk factors where characterization of students using the deficit model orientation (Green, 2006) are equally dissatisfying because of the incomplete picture they paint of complex and rich diversity of adults who enroll in college.

Understanding who adult learners are is important to community colleges because these institutions also enroll many more adults than the 4-year higher education sector, particularly adults who are considered low skilled due to their prior limited educational experiences, their modest academic participation and accomplishments, and their previous or current employment circumstances at the bottom of the economic ladder in society (see, for example, Grubb, 2001). In fact, the diversity of enrollments in community colleges is best portrayed among adult learners who enroll in large numbers in both credit and non-credit coursework, although data on students enrolled in non-credit course work is very hard to come by. Understanding the high incidence of adults stopping in and out of college due in large part to varying employment circumstances, ranging from unemployed to underemployed to part- or full-time employed, helps to account for more of the struggles many adults have in trying to participate in higher education for sufficient time to accumulate credits and acquire credentials of any kind (Berker & Horn, 2003).

An ever-growing proportion of these adult students are also immigrants and English language learners (ELLs) (Rodriguez & Cruz, 2009), and many of these students are also low income. Recognizing these trends among adults and youth, scholars such as Bensimon (2006), Dowd, and colleagues at the Center for Urban Education argue that community colleges should engage in an equity agenda such that underserved learners' have the same opportunities to participate and succeed in college as their White, upper income counterparts. Related to this work but emanating from another group of scholars [see, for example, Agrawal et al. (2007); Jenkins (2006)], career pathways are proposed to serve as a primary means of helping low-skilled learners, particularly adults, to get access to education and training programs and support services that give them a bridge into college credit-bearing course work offered by the community college. Once again, this systematic linking of disparate levels and sectors of the educational systems relies on the community college to lead and be the centerpiece for building new partnerships and programs.

Though considerable attention has been paid to the creation of transition programs including career pathway programs for youth, much less attention has been paid to adults. And yet, for many adults, particularly adults who face life challenges that limit their opportunities to enroll in college, pathway programs are a potentially important means of regaining a foothold on fundamental life circumstances, including family-living-wage employment. For adults caught in the nation's current economic recession, the community college can be a stronghold for education and training, as is often the case when the nation enters difficult economic times. In this respect, career pathways that integrate adult literacy, adult basic education (ABE), GED instruction, English-language learner (ELL) programs,

and pre-collegiate developmental (or remedial)⁶ education with postsecondary certificate and associate degree programs may yield beneficial transition outcomes (Jenkins & Spence, 2006). And according to new research on the applied baccalaureate degree (Townsend, Bragg, & Ruud, 2009), these benefits may extend beyond the community college to the bachelor's level.

Because of the potential importance of the community college to adult learners historically underserved by higher education, this section gives special attention the ways new and emerging policies and programs, including career pathways, support college access, and completion with credentials (i.e., certificates and degrees) awarded by community colleges. These programs are important to the students as well as to the economic well-being of their communities and the nation. However, there are serious obstacles. To be successful, these students need to overcome their high dropout rate; about two-thirds of these students do not enroll long enough to earn a credential (US Census Bureau, 2007).

College Access

A relatively recent analysis of national data from the Adult Education of the National Household Education Surveys Program (AE-NHES) profiled adult participation in formal learning activities taking into account the different levels of education in which adults had engaged in formal learning during the previous 12-month period (Kienzl, 2008). The study examined six different types of formal learning: "(1) English as a Second Language (ESL) classes; (2) adult basic education (ABE) classes, (3) GED preparation classes, (4) college, university, and vocational/technical degree or certification programs; (5) apprenticeship programs; and (6) courses self-defined by the participant as taken mainly for work or for personal interest" (p. 1). Over half of the adults surveyed reported participating in some type of formal learning, with the most common forms being work- or personal-interest related and college/vocational technical education. The education level of the respondents was strongly related to participation in work-related courses, with participation in these types of courses by adults having a bachelor's degree eight times higher than adults with no high-school credential. Not surprisingly, participation in the GED, ESL, or ABE was most prominent among the group of adults who had not graduated from high school, which makes sense. Adults having more advanced education are not qualified nor would they want to participate in high school-level programs.

Kim, Collins Hagedorn, Williamson, and Chapman (2004) also examined national data associated with the AE-NHES survey and reported growth in participation in adult education courses that they attributed to changing demographics

⁶Recognizing the terms developmental education and remedial education have different means, this author uses both terms interchangeably in this chapter to accurately reflect the use of the terms used in the original literature reviewed for this chapter.

(e.g., the aging of the population, re-entry of women into the workforce, and an influx of immigrants), and global economic and technological advances that create changes in the workforce that affect large numbers of incumbent workers. Examining characteristics of the adult learner population, they observed the following characteristics of ESL and ABE participants: Women outnumbered men in these programs, and younger adults (the largest group was 16–30 years old) were more often enrolled in them than older adults. High-school education and household income were positively related to participation in ESL or ABE, and being Hispanic or African-American was also related to participation in these programs.

Though limited information exists about students enrolled in programs offered by community colleges that emphasize career pathways for adults, partly because of the newness of these programs, the limited amount of empirical literature on the characteristics of adult learners parallels closely the results of the AE-NHES studies. For example, Bragg et al. (2007) conducted case study research to document the evolution of career pathway programs for low-skilled adult learners, referred to as adult career pathways, portraying the characteristics of adults targeted by three occupational programs that began at the ABE or GED levels. The three programs are Carreras en Salud–Instituto del Progreso Latino (IPL) located in Chicago, Illinois; General Service Technician (GST) program at Shoreline Community College located at Shoreline, Washington; and finally, the Career Pathways Initiative (CPI) located at Ouachita Technical College in Ouachita, Arkansas. Depending on their clientele and their focus, the programs utilize different funding streams, including state and local appropriations to community colleges as well as adult education, WIA, Temporary Assistance for Needy Families (TANF), and federal career-technical education.

The Carreras en Salud-Instituto del Progreso Latino (IPL) enrolls primarily Latino students living in the city of Chicago, many of whom are immigrants with limited English skills. The GST–Shoreline Community College program also serves a high proportion of immigrants who benefit from integration of language instruction into the integrated adult education and career-technical education curriculum. This program began as a pilot of the state of Washington’s Integrated Basic Education and Skills Training (I-BEST) program that emphasizes the integration of ESL and ABE with career and technical education. Through a co-teaching arrangement, the I-BEST approach emphasizes literacy education along with workforce skills. As for the third site studied, the career pathway program at Ouachita Technical College was stimulated by Arkansas’ statewide Career Pathways Initiative (CPI), and it targeted students who were unemployed or employed in low-wage jobs, with a sizeable proportion being TANF recipients. Most adult learners enrolled in the three programs lacked a high-school diploma and functioned at very low literacy levels. And, whereas these cases cannot possibly represent all career pathway programs in the United States, they provide an on-the-ground snapshot of the diversity of students that similar career pathway programs appear to be attempting to serve.

System and Curriculum Alignment

The US Department of Education and a number of prominent foundations have funded demonstration projects and modest, primarily descriptive, evaluations to examine the viability of career pathway programs for adult learners. One of the earliest grants awarded by the US Department of Education, Office of Vocational and Adult Education, was for the adult basic education (ABE) to Community College Transitions Project. The project concluded with a symposium conducted in 2006 wherein speakers and participants examined results of a literature review and field visits involving 16 ABE programs throughout the nation. Among the findings were a number of illustrative practices and strategies that appear to enhance student transition from ABE to postsecondary education, including assisting adult learners to access postsecondary financial and educational resources, providing adequate academic preparation through curriculum that aligns across systems and with students' goals, providing support services to help students overcome barriers, and supporting collaboration between ABE and postsecondary institutions to help students understand college policies and procedures (US Department of Education, Office of Vocational and Adult Education, 2007).

Results of a second study funded by the Office of Vocational and Adult Education on adult career pathways (Bragg et al., 2007) found common curriculum features in three programs located in different parts of the country and enrolling different low-skilled adult groups. The three programs are Carreras en Salud–Instituto del Progreso Latino (IPL) located in Chicago, Illinois; General Service Technician (GST) program at Shoreline Community College located at Shoreline, Washington; and finally, the Career Pathways Initiative (CPI) located at Ouachita Technical College in Ouachita, Arkansas. Federal and state funds for adult education, English as a second language (ESL), career-technical education, and WIA supplement community college funding to enable these programs to operate.

Starting with initial entry in ABE, GED, or ESL, all three programs offered integrated career and technical content with ABE, ESL, and remedial education. Stackable, modularized curriculum with multiple entry and exit points was ubiquitous as well. Certificates and degrees were available at various exit points, depending on how the curriculum related to the career ladder. All three programs also supplemented the curriculum with technology enhancement to individualize instruction and accelerate students through pre-college courses, especially mathematics.

Remedial education was offered as an option by all three pathway programs (Bragg et al., 2007), but it was not the primary focus of any. All the programs professed the goal of helping students by-pass remedial education by supplementing the ABE and GED curriculum with college-level content sufficiently rigorous to prepare them for college-level instruction. Despite this well-intentioned objective, many students required additional remedial coursework before enrolling in college-credit courses. None of the programs attempted to modify the remedial curriculum, partly because it was owned by the community college while the ABE program was less central to the core. Even so, ABE and community college administrators associated all three programs expressed concern about students who spent considerable

time in meeting remediation requirements. They worried about the time and money that students need to spend to complete the remedial courses, and the detrimental impact this might have on students' debt load and their motivation to stay in school.

Although the three sites served somewhat different student populations, the programs offered similar strategies to address students' occupational preparation needs including job readiness training. Either a stand-alone course or an integrated approach was used to help students understand and value job readiness skills thought helpful to their success in the classroom and on the job. Drawing on their local partnerships, each program responded favorably to employers' calls for employability skills training, and in some cases elicited their help in determining specific content offered in the curriculum. Team teaching, small cohorts, learning communities, and project-based instruction and authentic assessment were not evident in all classrooms, but fairly widely used. An array of support services was offered by all the programs to provide students with financial aid, academic and career guidance, counseling services, and job placement, case management, transportation and childcare assistance, mental health services, and in at least one site, support for students with disabilities. Administrators and students in all three programs believed a comprehensive portfolio of support services was essential to student progression through the programs.

Attesting to the ability of the programs to align systems and benefit students, Bragg et al. (2007) constructed a preliminary picture of student outcomes based on program and institutional data. In the case of Carreras-IPL, approximately 350 students had participated since the program's inception 3 years earlier, with over 70% of the students having reached a milestone involving earning a certification or license. These credentials reflect the fact that students entered the program anywhere along the educational continuum, from entering at the GED level, to entering at the remedial level, to entering at the postsecondary career and technical education level. By 2007, 77 students had reached the License Practice Nursing (LPN) stage of the pathway earning wages equivalent to \$25–\$27/h.

By comparison, 24 students had enrolled in GST-Shoreline's I-BEST program with 75% of these students finishing the initial training. Of these completers, 88% obtained employment in the industry, and a follow-up study showed 68% were retained. Hourly wages averaged \$12–\$17/h. (Additional research results related to I-BEST programs appear next in this discussion to help put these results into context of the larger landscape of the state of Washington.) Finally, a relatively young program, the CPI-Ouachita enrolled over 400 students who had earned a WAGE certificate, and 142 (36%) of these had enrolled in college-credit courses. Of these, 40 enrollees had graduated from the Certified Nursing Assistant (CNA) program, and 7 had enrolled in Associate Degree in Nursing (ADN). While these results are indeed preliminary and without adequate controls or comparisons, they document that a reasonable proportion of students are transitioning through the programs and reaching interim milestones that offer credentials recognized in the labor force.

The General Service Technician (GST) program at Shoreline Community College represents one of a growing number of I-BEST programs in the state

of Washington. Since beginning in 2004–2005, the number of I-BEST programs has expanded to 34, enrolling with 900 students enrolled by the 2006–2007 year (Jenkins, Zeidenberg, & Kienzl, 2009). Using a multivariate analysis to compare the outcomes of I-BEST participants to a sample of basic skills students who enrolled in at least one non-I-BEST course, the researchers found the I-BEST students outperformed the comparison group on the following outcomes: continuing from the I-BEST program into credit-bearing coursework, earning credits toward a college credential, earning occupational certificates, and making point gains on basic skills tests. In additional multivariate statistics using propensity score matching to strengthen the comparison group analysis, the researchers predicted the probability of I-BEST students earning at least one college credit was 90%, compared to the probability of the comparison group at 67%. The I-BEST students earned substantially more college credit than the comparison group over the 2-year period that student outcomes were tracked, and their probability of continuing to the second year of college and earning an occupational credential was higher. Jenkins and colleagues conclude with a cautionary note that, despite their attempts to employ a rigorous statistical design, the results are not causal and the influence of selection bias is unknown, possibly affecting results for either group in ways unknown to the researchers.

Beyond these government funded studies (federal or state), organizations such as the Ford Foundation, the Joyce Foundation, the Charles Stewart Mott Foundation, and others have funded initiatives focused on adult learners, including the Bridges to Opportunity initiative funded by Ford involving six states (Colorado, Kentucky, Louisiana, New Mexico, Ohio, and Washington); the Breaking Through initiative with 29 programs and numerous states throughout the nation, initially funded by Charles Stewart Mott; and the Shifting Gears initiative located in six Midwest states and funded by Joyce. Of these three initiatives, the Breaking Through and the Shifting Gears initiatives have produced preliminary evaluation results that pertain to system alignment and program changes that link adult education and/or remedial education to postsecondary occupational programs to enhance adult learners' access to college and careers.

The Breaking Through (BT) initiative was seeded by field research conducted by Liebowitz and Taylor (2004) that revealed several ways community colleges were engaged in delivering programs to assist low-skilled adults to progress through adult education and/or remedial education to postsecondary occupational education. Four strategies described as “high leverage” (p. 1) were theorized to assist low-skilled adults to transition to the community college to complete a significant portion of their postsecondary certificate and degree requirements and to enter a family-sustaining wage career. The four strategies are as follows: (a) integrated institutional structures and systems that link disconnected programs such as ABE, ESL, non-credit workforce training, remedial education, and postsecondary occupational education; (b) accelerated learning that speeds up the time of traditional remedial courses and attempts to address the lack of diagnostic assessment of students’ specific needs and abilities; (c) labor market payoffs that reflect the economic realities of working adults and their families including offering work-related

content, structures that accommodate working adults, and modular credentials; and (d) comprehensive supports that assist adults in juggling work, parenting, and education by offering student support services.

Evaluation of the six most advanced community colleges, referred to as leadership colleges, revealed a deepening level of experience with the four high leverage strategies (Bragg & Barnett, 2007, 2009). Specifically, the Central New Mexico's BT initiative in Albuquerque offered accelerated remedial curriculum with multiple supports to facilitate adults' pursuit of certificates and degrees in the construction industry. Owensboro Community Technical College in Owensboro, Kentucky provided employer-sponsored training programs in manufacturing, business, and health care, using accelerated and modularized basic skills and technical curriculum. The Community College of Denver implemented the FastStart program, which emphasized accelerated remedial course sequences integrated with career development, using a learning community approach. Similarly, Southeast Arkansas College's program offered accelerated, contextualized remedial curriculum associated specifically with the allied health program. Cuyahoga Community College offered an initial bridge into the State Tested Nursing Assistant (STNA) program that focused on improving academics while introducing core concepts in health care for students with very low literacy levels (i.e., below grade 8). Last, Portland Community College implemented the Moving On Toward Tomorrow (MOTT) program that offered intensive and intrusive advising focused on helping students' progress from remedial education to postsecondary occupational certificate and degree programs.

Despite strong signs of progress with implementation (i.e., additional cohorts, increasing enrollments, and added program features), barriers were identified in the first and second years of an external evaluation conducted by Bragg and Barnett (2007, 2009) including challenges related to system alignment issues between adult education, remedial education, and postsecondary occupational programs. These program challenges related to obstacles students face progressing along the pathways continuum and difficulties sustaining their engagement at the adult education level and advancing them from ABE or GED directly into college-level occupational courses without requiring remediation. Even with additional foundation funds and strong institutional commitment from top leadership, financial resources are an ever-present concern in sustaining these programs.

The Shifting Gears initiative funded by the Joyce Foundation (Price & Roberts, 2009) works with six states in the Midwest (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin). The initiative focuses on system change, using the following four approaches as core principles to implement programs for low-skilled adults: (a) using data to make policy and program improvements; (b) pursuing policy change to leverage system improvements; (c) engaging practitioners to develop ideas and buy-in; and (d) communicating with stakeholders to cultivate their support. Price and Roberts, external evaluators on the Shifting Gears initiative, reported results after the initial 3-year commitment of the Joyce Foundation, and their results are insightful on the question of system alignment. Their findings point to the importance of developing and reinforcing a logical approach that is articulated consistently and frequently to a wide range of stakeholders, including government

and elected officials; using multiple strategies to generate policy change; supporting collaboration and consensus among key partners; and using data to inform decision-making.

An evaluation of phase one of Illinois' Shifting Gears initiative, running from 2007 to 2009, confirmed two models that were employed by community colleges (Bragg, Harmon, Kirby, & Kim, 2009). The first is an adult bridge model that extends from adult education to occupational programs, and the second is the developmental bridge model that extends from remedial education to occupational education. In addition to these, other models emerged within the community colleges funded as part of the project, specifically a model for English-language learners, an incumbent worker model, and a hybrid model that blended adult education and remedial education. Changes observed in policy and practice included enhanced support services; enhanced alignment of adult education, developmental education and career and technical education; improved course approval procedures to facilitate fast-paced program development and delivery; and enhanced communication and coordination between departments internal to community colleges and between local colleges and the state.

Streamlining Signals

Many of the challenges with signaling mentioned earlier in this chapter pertaining to youth also fit adult populations that seek to participate in community colleges, most notably the challenges observed by Rosenbaum et al. (2006) regarding informing (or failing to inform) students about remedial courses and how they relate to college-level instruction. Bragg et al. (2007) noted attempts by the adult career pathways to by-pass remediation so that their students could progress quickly to college-level instruction, but when the adult education courses failed to prepare students for college credit courses, remediation was imposed, usually in accordance with community college policy. The outcome is that, for many students, the adult education courses and remedial courses blur. Students do not understand the purpose of the different courses, how credit and tuition charges are associated with the courses (or not), and how the courses are related to college-level degree programs.

Moreover, Reder (1999) and others have criticized the inadequacy of ABE and GED preparation coursework for failing to prepare adult learners to enter the postsecondary level ready to learn. He contends that an outdated notion of what adults need to know and be able to do to enter employment, still assuming students can complete ABE, pass the GED, and get a good job, falls short of what students need to prepare for postsecondary education and family-wage employment. To this point, Prince and Jenkins (2005) observe that a sizeable proportion of adults who make up the community college student population will not be retained in college, nor will they receive any type of certificate or degree. These findings point to a serious dilemma for adults who attend college but fail to obtain a marketable credential that signals to the labor market that they have skills and knowledge consistent with being a productive employee.

Referring to the “tipping point” study, Prince and Jenkins (2005) studied adult learners in Washington state by drawing on student record information from the Washington State Community College and Technical Education System to track two cohorts of adults 25 and older who had, at most, a high-school education and who entered the 2-year college system for the first time between 1996 and 1997 or 1997 and 1998. Results revealed the importance of adult learners attending at least 1 year of college and earning a credential in terms of their experiencing a substantive boost in their labor market outcomes, specifically both employment (being employed) and earnings. Taking basic skills courses concurrently with CTE produced significant outcomes in average rates of employment and quarterly earnings. These results offer an important understanding of the potential of college enrollment and certification to signal to employers that students offer labor market payoffs, and they replicate earlier results of Bailey, Kienzl, and Marcotte, 2004; and others.

Conclusions and Implications of Policy and Research

Community colleges operate at the crossroads that connect education and training systems associated with pre-K-12 education, higher education, adult education, workforce training, and employment, and they offer a variety of pathways for youth and adults to transition to college and careers. Since nearly their inception, community colleges have played a primary role in delivering academic education and career and technical education, more recently adding a range of programs and services highly connected to the workforce and economy (Bragg & Townsend, 2007). This chapter used Venezia’s (2001) P-16 accountability model, and its foci on three dimensions: (a) increasing access and closing the achievement gaps between different student groups; (b) connecting and aligning curriculum, standards, and assessments; and (c) streamlining college transition policy and clarifying signals sent to students regarding their transition to college and employment. The remainder of the chapter considers the lessons garnered from the literature with respect to Venezia’s claims and also in relation to President Obama’s AGI initiative for future policy and research. Regardless of the timing of passage of the AGI, the president’s proposal to improve college access and completion, using community colleges as a primary conduit to achieve this goal, is an important vision for the nation.

College Access

Results of the extensive collection of studies reviewed in this chapter address questions of access to college and preparation for students underserved by the higher education system. With respect to access, the results demonstrate the potential that community college-oriented transition programs that begin at the pre-K-12 level and extend to community colleges have to enroll underserved students. Youth and adults recognized as students of color, low income, low literacy, low skilled, and at risk of dropping out or failure need not be left out of college opportunities but

rather, through partnerships between pre-K-12 and community colleges, provide access and opportunity to enroll and progress to completion. Transition programs that extend structural inequalities, that fail to demonstrate equitable distribution of resources and opportunities for youth and adults, including learners underserved by the existing P-20 system should be modified to ensure equal access and opportunity or they should be discontinued. Research associated with this review point to ways some transition programs targeting college and careers have been shown to perpetuate inequitable outcomes, and others have not. One important key to the gaps in outcomes for different student groups is linked to pre-K-12 academic preparation, plus the extent to which the information about the college preparatory coursework that students need to take is communicated widely and clearly.

While gender stereotyping and discrimination of any kind is deplorable, transition programs that emphasize curriculum that engages male students whose numbers are declining at the postsecondary level deserve further examination including more empirical study. The fact that male students enrolled in postsecondary career and technical programs associated with tech prep and STW deserves consideration, assuming these programs do not disadvantage other groups who also require opportunities to engage in postsecondary education. To this end, efforts should be made to strengthen career-technical transition programs that reach out to males and that emphasize a pathway to community colleges and ultimately family-wage sustaining employment. Some of the areas where male students show continued interest in enrolling are fields traditionally predominated by males in science, technology, engineering and mathematics (STEM). However, as STEM fields diversify, opportunities to engage males in occupations traditionally held by women may be increasingly attractive. Carnevale et al. (2010) predicts the nation's economic recovery over the next few years will not generate an employment profile that resembles the US workforce of today. As the labor market shifts and fields such as health-care and education grow, it will be important to continue to diversify transition programs to ensure they reflect the population and help students understand the complex connections between education, the workforce, and the economy. It is not enough to prepare students to fill jobs; what is needed is to help students understand the larger landscape by which the local, state, and national workforce and economy function.

From a macro-policy perspective, youth and adult transition programs appear to reach the target population for which they are intended; however, there is potential for these programs to hedge on providing access to the most at-risk students for the purpose of showing more successful program outcomes. Pushing for accountability through demonstrated results, including educational outcomes, is a noble cause; however, it is important for accountability systems to be logical, feasible, and transparent. Though there are no easy solutions, it is important for educators and policy makers to be thoughtful in balancing requirements for educational outcomes with student access, to maximize the most beneficial outcomes for all students. If not, the agenda to transition more students to college and careers, an agenda that is consistent with AGI, will be squelched by the requirement to demonstrate success by enrolling students who are most likely to succeed.

To engage and sustain the enrollment of students and help them attain postsecondary credentials, transition programs should be structured in ways that accommodate the personal lives and work schedules of the prospective students and assist them with the support services they need to balance work, home, and school. Focusing on rigorous academics that are aligned across systems (i.e., high school to community college, adult education to community college) is important, but the research paints a compelling picture regarding the importance of the other side of the equation. For youth and adults who have multiple challenges to staying in school, support services are critical to retention and completion.

Enhanced data collection mechanisms are needed to document transition program participants as they matriculate from the pre-K-12 to the community college to employment, and sometimes back and forth between the systems. Many of the studies related to youth and adult transition to and through the community college are descriptive, sometimes anecdotal, and lack the rigor necessary to understand program impact and student outcomes. No one level of the system—federal, state, or local—has sufficient quality data to understand how the educational experiences of students engaged in transition programs prepare them to transition from the pre-K-12 level to college, let alone alone college to careers. With the advent of state longitudinal data systems, opportunities to link disparate data systems are emerging in states that have heretofore had modest or virtually no capacity to support longitudinal research.

Research addressing questions of access to transition programs designed to prepare students for college and careers is needed, including examining the decisions underserved students make about accessing these programs. What factors influence students' plans for enrolling in transition programs that utilize the community college as the nexus for students' transition experience to and though the community college to employment? To what extent do students make deliberate plans to enroll in college- and career-oriented transition programs, and to what extent do educational plans made in high school influence students' eventual decisions to enroll and persist? How are these results distributed among diverse student populations, particularly minority and low-income students most at risk of dropping out? Researchers who have a keen understanding of the P-20 system, who have expertise in longitudinal data analysis, and who have the patience to pursue difficult questions are needed to address these important concerns.

System and Curriculum Alignment

Examining connections between levels of the educational system necessitates looking at the alignment of academic offerings (i.e., the curriculum) as well as support services availed to students. With respect to the alignment of curriculum, several of the transition models discussed in this chapter for youth and adults show promise when academic and career-technical preparation are integrated. The empirical research points to positive postsecondary outcomes when youth combine rigorous college prep studies with a modest number of career and technical education courses

offered at the secondary level, and when the curriculum allows students to achieve a dual concentration in college prep and career prep. Though relatively few students take college prep as well as career and technical coursework during high school, students who are able to balance a college prep course load with career and technical courses seem to experience outcomes superior to comparison groups of students with similar characteristics. These results seem to hold for White students of all income levels, including low income, but whether they extend to African-American students is unclear, and whether other underserved student populations benefit from these programs remains yet to be determined.

Studies of youth transition show promising results for student participation in dual credit suggesting curriculum alignment and student outcomes are enhanced if dual credit is a feature of curriculum extending from high school to the community college. Results from studies by Karp et al. (2007), Kim (2006), and Lekes et al. (2007) suggest dual credit contributes to participants' accelerated progress and success in college enrollment and degree attainment. These works also suggests that dual credit carries an incentive (in college credit) that translates into enhanced college persistence and completion. Whereas scholars of career and technical education such as Lewis and Overman (2008) have suggested the positive effects of dual credit reported in the literature are mostly an artifact of self-selection bias, Karp and Hughes (2008b) have theorized that the models used to analyze the effects of dual credit are too simplistic, underestimating complex relationships between program components, students' academic engagement and performance, their knowledge of the social aspects of college, and their motivation to participate in college. It is possible both of these assertions are true, and only through more rigorous analysis and use of more sophisticated theoretical modeling will a fuller understanding of the impact of dual credit on student outcomes emerge.

Several studies show implications for the new federal career and technical education legislation that calls for an expansion of career-related "programs of study." Prior research shows transition programs that provide high-school students with a focus on career and technical education as well as rigorous academic preparation including accelerated college learning opportunities and dual credit, offer potential for transitioning more youth to the community college. Promising programs and practices may also be emerging with respect to adult career pathways. These programs and practices need to be disseminated, replicated, and evaluated much more rigorously. Common curricular and instructional features such as an initial entry point in adult education, adult literacy programs, or ESL instruction need to be documented more fully, and the students who enroll in these programs need to be engaged in research that portrays accurately and respectfully the complexity as well as the richness of their lives. Much more needs to be known about how curriculum and instruction is being modified to meet the needs of youth and adults. What does high-quality accelerated, contextualized, modularized, and stackable curriculum that integrates occupational education with ESL, ABE, and remedial education look like? What entry and exit points make sense to ensure that students obtain viable certificates and degrees? How does technology-enhanced curriculum including computer-aided design and online learning contribute to the learning of

youth and adults who accelerate through foundational aspects of the curriculum including some areas of remedial education (math in particular)?

Streamlining Signals

Results on studies of youth and adult transition confirm that policies and programs send confusing signals to students who seek opportunities to access the community college as a means of acquiring postsecondary education. With respect to streamlining policy and clarifying signals, studies show institutional and program policies and procedures about college placement, including placement testing, are unclear, sometimes because of the lack of clarity about college placement tests and cut-off scores, and sometimes because of the flexibility with which community colleges integrate remediation into the transition program or deliberately keep it out. Looking at the various transition and pathway programs examined in this chapter, it seems critical to help students understand what remedial course work is required, why they are expected to take it, and how performance in remedial courses will help them progress toward their college and career goals. Of course, these flow from the assumption that remedial education is necessary and beneficial, which, to some extent, still needs to be established. Much more research is needed on the remedial policies and practices that are utilized by community colleges, specifically how participation in remedial coursework facilitates or impedes the retention and completion of underserved youth and adults.

The successful acquisition of college credits through dual credit and postsecondary credentials (i.e., certificates and degrees) are signals to the P-20 education system as well as employers that students possess competencies needed to be successful learners in college and productive workers in the labor force. Educators and policy makers need to develop clearer and more compelling forms of signaling to inform multiple constituents of how the system is working, encouraging transparency of signaling that communicates across levels of the educational system and between education and employers. If underserved students are to gain more opportunities to participate in higher education and assume employment in family-wage supporting careers, the system needs to demonstrate that it is seriously committed to their success. Research that addresses these most critical challenges may be the most needed, but also the most difficult to conduct.

Finally, Bailey and Morest (2006) and others have suggested that the community college's equity agenda rests on a uniquely important triad relationship between academic preparation, access for traditionally underserved students, and success in the form of college completion and subsequent employment, echoing the accountability framework proposed by Venezia (2001). To serve the highly diverse student populations who desire a community college education, neglecting any one of these facets of the equity agenda (i.e., academic preparation, access or success) would seem to jeopardize the educational and economic benefits that students seek to attain and the P-20 system strives to provide. Indeed, President Obama's AGI proposal, along with a growing number of scholars, practitioners, and policy makers contend that

community colleges should play a central role in enhancing educational and economic opportunities for all learners. Finding ways to enhance access and success for students who have had limited opportunity to engage in either pre-K-12 or higher education is required if more learners are going to transition to and through the community college to secure family-wage sustaining careers. The historic commitment of the community college places this institution at the forefront of the agenda to expand access to underserved students, but whether it can deliver on progressive college retention and completion goals is unknown. The nation's college access and completion agenda is at the forefront of US educational and economic policies, with a spotlight shining brightly on community colleges as never before. The primary question that remains to be answered is whether they will be able to deliver.

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Chapter 10

A Review of the Theories Developed to Describe the Process of College Persistence and Attainment

Tatiana Melguizo

Stagnant college completion rates coupled with persistent inequalities in terms of college attainment by socioeconomic status and race/ethnicity (American Council on Education, 2006; Bowen, Chingos, & McPherson, 2009; Haverman & Wilson, 2006) have motivated scholars, researchers, and policy makers to explore factors associated with college persistence and attainment. As a result, there have been important theoretical developments as well as applications of different conceptual frameworks¹ in education, economics, sociology, and psychology to study the process of college persistence and attainment (Bandura, 1977; Becker, 1967; Bourdieu, 1973, 1986; Cameron & Heckman, 1998; Manski & Wise, 1983; Morgan, 2005; Seller & Hauser, 1975; Tinto, 1975, 1993). The main objective of this study is to provide a thorough review of the different theories and conceptual frameworks that have been developed and/or applied in the social sciences in the last four decades to study the process of college persistence and attainment. A review of the theories is warranted, given that after a careful examination of the peer-reviewed papers published in the three main journals in higher education (i.e., *The Journal of Higher Education*, *The Review of Higher Education*, and *Research in Higher Education*) in the last two decades (see Table 10.1),² it was clear that most of the researchers

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¹I use the definition of theory provided by Kerlinger (1986) and cited by Braxton et al. (1997): “Kerlinger (1986) defines theory as logically interrelated constructs that present a systematic view of phenomena by specifying relationships among variables, with the purpose of explaining and predicting the phenomena (p. 9) . . . Theoretical *models* move one step beyond the abstract parameters of theory, expanding these to more concrete explications of constructs. Theories and theoretical models provide scientific tools for researchers and practitioners to gain greater understanding of complex phenomena.” I use the terms theoretical models, theoretical frameworks, and conceptual frameworks interchangeably. For a more thorough description of the difference between theory and conceptual framework see Perna (2006) and Perna and Thomas (2008).

²The table is available at the author’s webpage and will also be available upon request. It is important to mention that this review does not cover the work by higher education scholars such as Terenzini and Pascarella (1977) in the late 1970s and 1980s. For those interested in the earlier applications to Tinto’s model see Braxton et al. (1997) for a thorough review.

relied heavily on a single theoretical perspective, Tinto's (1975, 1993) model of student departure. It is noteworthy that even after a major appraisal of Tinto's theory published by Braxton, Sullivan and Johnson in 1997, in which they document very limited empirical evidence supporting the theory, the field continues to rely heavily on this student departure theory. In addition to the appraisal of the theory, Braxton published an edited volume: *Reworking the Student Departure Puzzle* in 2000 in which prominent scholars in the field strongly advocated for either new theoretical directions (Johnson, 2000; Kuh & Love, 2000; Rendon, Jalomo, & Nora, 2000; Stage & Hossler, 2000; Tierney, 2000; Vigil Laden, Milem, & Crowson, 2000) or substantial revisions of the theory (Baird, 2000; Bean & Eaton, 2000; Berger, 2000; Braxton & Lien, 2000; St John, Cabrera, Nora, & Asker, 2000; Tinto, 2000). It is worrisome that even after a decade after the publication of Braxton's book, the field continues to focus on this single theoretical perspective. One unintended consequence of focusing on a single theory is that the field have mostly focused on research questions related to student experiences, it is important to expand the theoretical frameworks to address a wider set of questions that are relevant to gain a better understanding of the factors associated with the process of college persistence and attainment. One of the main goals of this chapter is that by presenting a thorough review of alternative theories and conceptual frameworks, graduate students, scholars, and the field as a whole will be engaged and motivated to explore a wider set of research questions that can be answered using a broader set of theoretical frameworks.

This chapter contributes to the field of higher education by providing a review of the theories and conceptual frameworks that have been developed in education, economics, sociology, and psychology to study college persistence and attainment. It is common for education scholars to use theories from other disciplines, but I could not locate a single document that would provide a thorough review of multiple theories in different social sciences to address the problem of college persistence and attainment.

The review of the theories and conceptual frameworks is organized as follows. I start with a detailed description of each of the theories and/or conceptual frameworks. I begin with the most commonly used theory in higher education, the *longitudinal model of student departure* first developed by Vincent Tinto in 1975 and later reviewed in 1993. Economic theories, which are mostly grounded in rational choice theory, are then described, followed by two statistical models developed in economics that can be applied to study the process of persistence and attainment (Manski & Wise, 1983; Cameron & Heckman, 1998). Two contrasting theories that have been developed and applied in sociology are described: Bourdieu's theory of social and cultural capital (1986), which is more of a structural theory in the sense that individuals' choices are restricted by society, and Morgan's (2005) theory of educational aspirations, which is an attempt to combine economic and sociological theories. Bourdieu's theory is also widely applied in higher education, while Morgan's theory has not been applied yet. Morgan's theory is the first example of a theory developed to capitalize on previous theoretical and statistical developments in economics and sociology. Finally, in recent years the psychology field is moving

away from traditional measures of students cognitive abilities toward measuring other psychological traits or non-cognitive abilities (i.e., preference for long-term goals, and leadership) that have been shown to be associated with college persistence and attainment. Given that no theory in psychology has been developed specifically to explain the process of persistence and attainment, a number of empirical applications that have tested the association between non-cognitive characteristics and college completion are described.

In the last part of the chapter I describe the most common research questions that have been addressed in the higher education field based on the review of the published papers in Table 10.1. I then provide a short list of relevant research questions that have not been studied in depth in our field, and that could contribute substantially to a better understanding of the process of college persistence and completion. The goal is that this article will generate interest in a broader set of research questions that can be addressed using one or more of the conceptual frameworks described in this study.

Review of Conceptual Frameworks

Education

Longitudinal Theory of Student Departure—Tinto

Vincent Tinto's theory of student departure (Tinto, 1975, 1993) is probably the most widespread theory used in the field of higher education. The Google citation index shows a combination of almost 5,000 citations for these two documents. More than 30 years ago the seed of what later became a more developed theory was published in the *Review of Educational Research* (Tinto, 1975). Tinto provided a critical review of the literature on student dropout in the early 1970s and identified six main limitations of earlier work. First, he argued that dropout was defined very narrowly. Previous studies had failed to capture the complexities of student pathways. He noted that traditional student characteristics and traditional student pathways had changed. In other words students were older, some were working part or even full time, they were attending more than one institution, and as a result taking more than 4 years to attain a bachelor's degree. Second, he illustrated how previous studies that had focused mostly on individual characteristics implicitly "blamed" students for not completing on time. He argued that differences in attainment rates between different types of institutions meant that institutions do indeed have an important role in the persistence and attainment process. Third, he stated that most previous work on student dropout was atheoretical. He explained that while empirical work simply describes differences in attainment by selected individual characteristics, theoretical work requires the development of a longitudinal model that links various individual and institutional characteristics to the process of dropping out. Fourth, his main criticism of previous empirical work was that by mostly focusing

on individual characteristics, researchers were completely neglecting the role of the institution. Fifth, also related to the role of the institution, he also made a really important point regarding the lack of methodological rigor of previous studies. He mentioned that previous empirical work not only did not focus on the association between institutional characteristics and dropout, but also failed to control for pre-existing individual differences. In his words, “the fact that differences in the dropout rates between institutions results in the types of students admitted.” This is a reference to the problem of student self-selection that a substantial body of empirical work in the education field has neglected and continues to neglect.³ Finally, he argued that previous work failed to offer any policy implications that were relevant to institutions and could help them change their practices to increase student persistence.

As stated above, one of Tinto's main critiques of earlier empirical work on student dropout was that it was atheoretical. In other words, it described differences in educational outcomes but failed to explain the mechanisms leading to these outcomes. He then engaged in developing a theory that the higher education field could use to study the longitudinal process of student departure. His work is mostly grounded in sociology but also incorporates concepts from cultural anthropology, economics, and psychology. In his seminal piece *Leaving College*, Tinto (1993) uses the work of cultural anthropologist Van Gennep (1960) to describe the states in the process of dropping out: separation, transition, and incorporation. He then argues that this conceptual grounding is limited because it does not provide a way of thinking about the informal processes of interaction among individuals on campus. In order to overcome this limitation, he draws on the work about suicide developed by French sociologist Emile Durkheim (1951). Tinto argues that even though no direct analogies should be made between suicide and the process of dropout, the two forms of behavior can be understood as a voluntary withdrawal from local communities. An important point is that this is as much a reflection of the community as it is of the individual that withdraws. This is a crucial point of the theory and as Braxton et al. (1997) noted, makes it an integrationist theory. By focusing on the interactions between the students and the institutions, instead of the students, he is departing from previous work by psychologists. He wanted to move away from individual-level work that, in his words, resulted in some sort of deficit model in which individuals who left were described as not a good fit for the institutions, and the institutions were not taking any responsibility for student departure. He acknowledges that whereas Durkheim theory wanted to explain suicide as a societal phenomenon, his goal is to develop a theory that explains the individual process of departure within higher education institutions. For this reason, he only focuses on one of the four types of suicide defined by Durkheim, the egotistical category. Egotistical suicide occurs when individuals are unable to become integrated and establish membership within the communities in society. Durkheim defines two types of integration: social and intellectual. Social refers

³For a detailed description of the selection problem see (Cellini, 2008; Melguizo, 2008).

to integration which results from personal affiliations and from day-to-day interactions among different members of society. Intellectual integration comes from sharing the values which are held in common by other members of the society. Tinto then proceeds to adapt these two concepts in his own longitudinal theory of student departure.

As Tinto explains, his longitudinal model of student departure has four specific characteristics. First, it is an *institutional-level model* which is intended to describe the longitudinal process of departure as it occurs within an institution. In this sense it is not a systems departure model. Second, he provides evidence showing that the dropout that occurs for academic dismissal is very small. For this reason the model pays attention to the *longitudinal process* by which individuals come to voluntarily withdraw from institutions. Third, the model is both *longitudinal and interactional*. In other words it describes longitudinally the process of the interactions which arise among individuals within the institution and which can be seen over time to account for the longitudinal process of withdrawal. Finally, he argues that the model is *policy relevant* because it can be used by institutional officials as a guide for institutional actions to retain students.

At its core this is a model of educational communities that highlights the importance of student engagement or involvement in the learning communities of a college. The model argues that the interplay between individual goals and commitments (internal and external) influence not only whether people leave but also the way in which they leave. As mentioned before, this is an institutional-level model and both the individual and the institution share equal responsibility for the process of persistence. As a result, he argues that though the intentions and commitments with which individuals enter college matter, what goes on after entry matters more. It is the daily interaction of the person with other members of the college in both the formal and informal academic and social domains of the college and the person's perception or evaluation of the character of those interactions, and of those that involve the student outside the college, that in large measure determine decision as to staying or leaving.

He finishes the description of his theory with four important observations. First, the process of departure is associated with the perceptions of the individual of his/her experiences within an institution. Second, this is an interactional system of individual learning. Third, both forms of integration, social and academic, are essential to student persistence. And fourth, a model of institutional departure is a model of educational communities with the classroom at its very center, and persistence as a whole is an education phenomena.

In summary, Tinto's theory of student departure contributed to the education field by providing a theoretical foundation to explain the longitudinal process of student departure. The two main pillars of his theory are the social and academic integration of students, and he argues that students and institutions play an equally important role in the persistence process. For him the classroom is at the center, and the learning and level of effort of the students are associated with the student's level of academic and social integration. The connection between learning and integration is one of the central pieces of Tinto's theory. Re-phrasing

Tinto's theory in economic terms, students and institutions maximize integration to increase learning and persistence. One of the important aspects of the theory is that by focusing on the interactions instead of the individuals, it emphasizes shared responsibility for both parties. However, the problem of focusing on the interactions within an institution is that, as a result, it is possible to neglect all the external forces that are in turn constantly affecting the individuals and shaping the institutions.

The main strength of an integrationalist theory is that it enables institutions to examine their practices and take responsibility for the process of departure. The main limitation of the theory is that by placing a magnifying glass around the interactions within the institution, it somehow assumes a small and static world and fails to capture the economic, social, political, technological, and global forces that are affecting not only the institutions but the postsecondary system as a whole. The following section presents the most thorough appraisal of Tinto's theory to date by prominent scholars in the field of higher education.

Braxton, Sullivan, and Johnson's Appraisal of Tinto's Theory

Twenty years after its original publication, Braxton et al. (1997) wanted to determine the rigor of the empirical studies based on Tinto's theory. Their appraisal included also an evaluation of the studies that have attempted to integrate theories from different fields, as well as a summary of the most prominent conceptual critiques to the theory. They present a careful review of empirical studies and list 15 propositions associated with the theory. They use a "box score" to determine the magnitude of support. Basically, they state that the empirical support for a given proposition is strong when more than 66% of the studies have found a statistically significant difference in that proposition's relationship. The problem with this method is that by design, propositions that have been tested by fewer studies are more likely to be coded as strong (i.e., one out of two is stronger than one out of eight).

Leaving this methodological limitation aside, they conclude that they find weak empirical support for the theory. The most troubling finding that they don't necessarily highlight is that they find basically no empirical support for the connection between the two main tenets of Tinto's theory: academic and social integration and persistence (they only find an indirect effect of social integration on persistence through institutional commitment for single institutions studies).

Despite weak empirical support for the theory, they still urge the field of higher education to continue using the theory while integrating it with other environmental theories. They also suggest testing the theory in other settings such as 2-year colleges. This is intriguing, given their assumption that this theory is probably less applicable to less-traditional population of students, such as the ones who attend 2-year colleges.

In the last part of the chapter, Braxton, Sullivan, and Johnson provide a comprehensive review of the conceptual critiques of Tinto's model, including the revisions and clarifications done by Tinto himself. Tinto's own critiques are aligned with the limitations described above. He also acknowledges that the theory is less applicable

for less-traditional groups of students, and that it is a theory that is insensitive to disengagement in the 2-year sector. For these reasons, he does not recommend applying the theory to study departure of non-residential institutions or commuter colleges. In their summary Braxton et al. (1997) question the fact that none of Tinto's revisions of the theory involved a thoughtful review of the numerous studies and dissertations that were produced testing the model.

Braxton, Sullivan, and Johnson's paper concludes with a summary of two other conceptual critiques. Attinasi (1989, 1994) critiques the anthropological grounding of Tinto's theory. He argues that a theory of student departure should originate from a qualitative study of the students, and not from inferences about tribal groups. He advocates qualitative analysis as the fundamental mode of theory building and theory testing. He rejects the usefulness of the theory for non-traditional students and argues that it only performs well when student populations are homogenous.

Tierney's (1991, 1992, 1993) critique also questions the anthropological constructs that provide simplicity, elegance, and explanatory power in the sociological model. His main concern is that the idea of a "rite of passage" implies that the individual needs to integrate into a set of values and attitudes. This is particularly problematic for non-traditional populations in predominantly white institutions because it legitimizes one culture over the other. He also argues that one does not choose to perform a "rite of passage" but rather that a rite of passage is a tradition, so in this sense the analogy does not hold. In addition, he argues that the model comes from an individualistic perspective when in reality the persistence process is a collective enterprise. He agrees with Attinasi that qualitative work should be the foundation for theory building. Moreover, in his view, theory has a more complex role and should not only enlighten but also enable people to seek justice, freedom, and equality.

Three years after the publication of the appraisal of Tinto's theory, Braxton published the edited book *Reworking the Student Departure Puzzle*. The book was divided into two main parts. The first one included articles that suggested revising Tinto's theory to incorporate other important aspects that have been neglected by the original theory (Baird, 2000; Bean & Eaton, 2000; Berger, 2000; Braxton & Lien, 2000; St John, Cabrera, Nora, & Asker, 2000; Tinto, 2000). The second group of articles advocated for the field to move in new theoretical directions (Johnson, 2000; Kuh & Love, 2000; Rendon et al., 2000; Stage & Hossler, 2000; Tierney, 2000; Vigil Laden et al., 2000). A detailed summary of the book is beyond the scope of this chapter, but some of the main critiques of the model provided by the different contributors are listed below.

Limitations of Tinto's Longitudinal Theory of Departure

A Narrow Integrationalist View of Student Departure

As mentioned above, one of the main limitations of an integrationalist perspective is that it necessarily neglects the outside world. This is a limitation that Tinto has acknowledged and that has been previously stated by a number of scholars in higher

education (Stage, 1989; Braxton & Brier, 1989; Brower, 1992; Cabrera, Nora, & Castaneda, 1992). Their critiques state that the field of education became so engaged in understanding the process of integration and student engagement at the institutional level that it left aside many other relevant external factors. Some examples include the need for an articulated K-16 system, the changes in federal- and state-level financial aid, the constant technological changes that are permanently shaping the way students and faculty interact, and global forces that are changing the rules of the game and forcing institutions to adapt constantly.

The Theory Is Not Appropriate to Study Minority Student Retention in Higher Education

Tinto's theory is limited and a number of scholars have advocated for using different theoretical considerations in the study of minority students (Attinasi, 1989, 1994; Rendon et al., 2000; Hurtado & Carter, 1997; Tierney, 1991, 1992, 1993). Similarly, Kuh & Love (2000) suggest the importance of including a cultural perspective on student departure. These critiques are basically highlighting the fact that the characteristic of the student population of the twenty-first century are very different from the ones in the mid-1970s when the theory was initially conceptualized.

Internal Accountability in Exchange for External Accountability

One of the main strengths of the integrationalist theory was to make it policy relevant for college administrators; it provided much needed internal accountability. This was important in the sense that this is an institutional-level problem that needs to be addressed. However, an integrationalist view that is not accompanied by external accountability leads to an unarticulated system where each institution lacks a clear set of directions or benchmarks to achieve. The lack of external accountability and outside evaluation is also detrimental for a system that needs to be held accountable for the educational experiences of the students.

Lack of a Reliable and Valid Instrument to Measure Academic and Social Integration

One of the main limitations of Tinto's theory is that it defines academic and social integration broadly. This is problematic because it does not provide the field with a series of reliable and valid instruments with which to properly measure the level of academic and social integration of students within the institutions. With the exception of Allen and Nora (1995) who did an empirical examination of the construct validity of goal commitment, most of the work used different constructs to measure academic and social integration. Concepts such as self-efficacy, developed by Bandura (1977, 1986) as part of his social cognitive theory, have been tested constantly to make sure that the survey instruments used to measure them are valid. In Tinto's work, on the other hand, the looseness in the definition of academic and social integration coupled with a lack of valid and reliable instruments to

measure them led researchers at every institution to define the terms as well as to determine the best way to measure them. However, one positive result for the field was the creation of national-level surveys such as the National Survey of Student Engagement (NSSE) and the Community College Survey of Student Engagement (CCSSE), which have provided relevant nationwide information to students, families, and institutions about the level of interactions that occur within different types of postsecondary institutions nationwide.

Lack of Articulation of the Mechanisms that Connect Academic and Social Integration to Learning and Persistence

Despite Tinto's effort to develop a theory to describe the mechanisms leading to college persistence, he failed to describe in more detail the mechanisms that connected the two main pillars of the theory, academic and social integration, to learning and college persistence. Bean and Eaton (2001) made this criticism 10 years ago.⁴

The Integrationalist Approach Masks the Student Selection Problem

In his earlier work, Tinto emphasized the need to be aware of the characteristics of students entering an institution. When he developed the theory, however, he did not warn researchers, college administrators, student affairs professionals, and institutional analysts about the problems associated with failing to control for students' observed and unobserved characteristics (i.e., motivation and non-cognitive characteristics) that might be correlated to the process of persistence. In other words, his theory cannot escape the fact that it may be the entering students' characteristics that determine their level of academic and social integration. Most of the empirical applications that applied the theory focused so much on testing the validity of the model for different types of institutions that they left aside one of the most prominent problems in empirical applications.

The Unintended Consequence of Outsourcing Integration to Student Affairs Professionals

Despite Tinto's warnings that integration was mainly the faculty's responsibility and that the student affairs professionals merely facilitated the process, most institutions tended to outsource the integration process to student affairs professionals. By failing to account for external factors and market pressures that changed the business of education, the theory failed to anticipate that the demands from faculty at research institutions would shift from teaching toward research. Financial constraints have also been changing the way institutions deliver content. Online education is gaining strength, and faculty at every single type of institution is strongly encouraged to devote their time to pursue grants and contracts. The reality is that

⁴Their critique is described in more detailed in the section describing the psychology literature.

postsecondary institutions have changed greatly since the mid-1970s because of demographic, technological changes as well as globalization that have changed the way institutions work. For this reason, the field has really suffered from taking an integrationalist view and ignoring the external factors that also affect the learning, interaction, and engagement of faculty and students.

The Longitudinal Model of Student Departure Seems at Odds with the Majority of Open Access and Non-traditional Postsecondary Education Institutions

After reading the longitudinal model of student departure, the reader is left with an idealized version of an institution where faculty and staff work together to maximize the learning opportunities of students inside and outside of the classroom. The individual and the institution establish a “contract” of shared responsibility for the persistence process, and what matters most is what happens *after* the students enter the institution. Postsecondary education is described as the universal equalizer where the simple fact of being accepted at an institution implies that if you perceive that you are integrated into the institution you would then necessarily persist.

The reality of the current postsecondary education system is that a small number of privileged students gain access to private elite and public flagship institutions. Most students enter open access institutions with a broad set of goals, most of the institutions are constrained financially that have no internal or external accountability, and that for the most part do not have the resources to outsource the process of engagement to student affairs professionals. As Tinto noted, in the mid-1970s, student demographics changed: having traditional students is now more the exception than the rule. Because of these changes, the model fails to account for the majority of the student population that the higher education system serves (Rendon et al., 2000; Hurtado & Carter, 1997).

This section has provided a critical review of the most widespread theory on the process of student departure in higher education. This is followed by a more detailed discussion of theories from the fields of economics, sociology, and psychology that have been or might be applied to the process of student persistence and attainment.

Economics

Human Capital Theory—Becker

The work of economist and Nobel Laureate Gary Becker has defined the way economists think about education. In 1964, Gary Becker published his groundbreaking and controversial book *Human Capital*. In his Nobel lecture, he argued that his work contributes to the literature in two major ways. First, he departs from the work of the nineteenth century utilitarian philosophers like John Stuart Mill who started with the premise that individuals’ actions are motivated by self-interest. He argues that individual behavior is driven by a much richer set of values and preferences. Second, he argues that one limitation of the more sophisticated analyses of investments in education done by Adam Smith, Alfred Marshall, and Milton

Friedman is that they are not integrated into discussions of productivity. He then describes how Theodore Schultz and others began to explore empirically human capital investments in economic growth (Becker, 1967). The main contribution of Gary Becker's work consisted of formalizing theoretically the notion of investments in human capital, and enabling this model to be applied and tested empirically at the levels of the individual, the firm, and the economy.

Becker started to explore the empirical applications of human capital theory by calculating the private and social rates of returns to education. He argues that it then became clear that the analysis of human capital could be used to explain the way labor markets and the economy work as a whole. This empirical work resulted in substantial evidence supporting the economic benefits of schooling and training. This evidence brought human capital to policy discussions and, as he argues in his Nobel lecture, is partially responsible for the “new faith” in human capital that has reshaped the way governments approach the problem of stimulating growth and productivity.

Human capital theory, like the rest of economic theory, is based on rational choice, namely, that human behavior is the result of a series of rational individual decisions. Becker argues that despite criticisms from other social sciences about the assumptions used in economics (i.e., individuals have a constant behavior over time) no approach of comparable generality has yet been developed that offers serious competition to rational choice theory.

Critique of Human Capital Theory

Paulsen (2001) provides a thorough description of the theory of human capital as it applies to investments in higher education. He starts by explaining how the central assumption of the model of rational investment decision making proposed by human capital theorists is that individual students implicitly calculate the costs and benefits of investing in higher education. Individuals face direct costs (i.e., tuition, fees, books) and indirect costs (i.e., opportunity costs), and after implicitly doing a cost-benefit analysis, they will only continue to invest if the “present discounted value of the benefits (earning differential) were greater than the present discounted values of the direct and indirect costs of the investment.” In other words, they will invest if the internal rate of return of the investment exceeds the market internal rate of return. These can also be described in marginal terms; meaning that individuals will continue to invest only until the marginal benefits exceeds the marginal costs.

Paulsen argues that despite the considerable explanatory power of this theory to predict the effects of changes in monetary benefits and costs on student enrollment behavior, the theory is limited in the sense that it does not acknowledge that the relative magnitude of these monetary benefits and costs may vary substantially across individuals due to differences in other factors that are often non-monetary. He provides as examples differences in socioeconomic status and background, academic ability, access to information about postsecondary education opportunities, financial opportunities in the credit markets, employment opportunities in the job

markets, discriminatory practices in the credit or job market or at institutions of higher education, and early home and school environments.

In recent decades, economists and other social scientists have expanded the traditional human capital model to incorporate some of these differences. For example, Avery and Hoxby (2004) present an empirical study documenting how high-income students at an elite private institution are the ones who are making the college persistence choices that rational choice theory would predict. Another expansion of the notion of human capital comes from sociologists, who have conceptualized social and cultural capital (Bourdieu, 1986) to account for differences in access to information and financial opportunities for individuals of different socioeconomic backgrounds.

Gary Becker provided a broad theoretical framework within which to think about investing in education. In recent decades other economists have expanded his model to conceptualize more precisely the process of college persistence and attainment. I will focus on the work of Manski and Wise (1983) and Nobel Laureate James Heckman who have applied human capital theory to conceptualize some aspects of higher education and labor economics such as access and future earnings, but this theory can also be adapted to study the process of college persistence and attainment.

Statistical Models Based on Rational Choice and Human Capital Theories

Econometric Model of Student Behavior—Manski and Wise

Charles Manski and David Wise (1983) were among the first economists to take advantage of the national longitudinal surveys created by the National Center of Education Statistics (NCES) to explore three important questions related to college access in America. First, they were interested in exploring whether federal financial aid programs were indeed successful in increasing college enrollment for students from low-income families. Second, they wanted to assess the relative importance of scholastic aptitude test scores, high-school rank, race, and socioeconomic background in determining college application and admissions. Third, they were interested in testing whether test scores predicted success in higher education. Even though they developed a model related to questions associated with college access, I review their work given that the statistical models developed can also be modified to study college persistence and attainment.

The main contribution of their work is that they use rational choice theory to define an econometric model of student behavior. It is important to highlight that they were the first economists to develop a statistical model to test the theoretical implications of the rational choice and human capital theories specifically in higher education. They defined five sets of decisions that students need to make: first, students need to apply to college (this is a decision that only depends on the individual); second, they need to gain admission to college (a decision that depends on the institution); third, they need to evaluate the financial cost associated with attending college (this is an institutional-level decision); fourth, they need to decide whether

or not to enroll in college (individual decision); and fifth, they need to persist in college to attain a degree (individual decision). They then hypothesized that there are five important general factors that determine people's choices after high school. These are as follows: (1) academic aptitude, (2) family income, (3) cost and aid, (4) quality of the high school the students attend and decisions of their peers, and (5) labor market conditions.

They start with the basic assumption of human capital theory, which is that individuals will only apply and enroll in college if the perceived utility of going to school is higher than the perceived utility of going to work. They then derive a conditional logit model (CLM) which allows them to expand the alternatives that an individual has, including many schooling possibilities. They model choice assuming that it depends both on the characteristics of the alternatives and on the attributes of the individual decision maker. The proposed model allows Manski and Wise to argue that whether a student persists to graduation depends on individual attributes and on the characteristics of the postsecondary institution attended. The problem is that some of the individual characteristics associated with applying to a specific type of institution are also associated with dropping out from that institution. Therefore, empirically it is very difficult to separate the role of the institutional characteristics from individual attributes. Because of this, the authors only attempt to identify the individual attributes and persistence without attempting to identify the college effects statistically. They concede that their findings might be confounded in the sense that some differences in persistence might partly reflect differences in the characteristics of colleges attended by people with different individual attributes. This is an important point that distinguishes the economic approach from that of the other social sciences and education. Economists are aware of the self-selection problem of individuals into institutions, and have developed statistical methods to address it and/or attenuate the problem.

Manski and Wise also argue that they can observe whether a person persists only if the person attends a college. For this reason they choose to estimate simultaneously a series of equations that describe the process of persisting in college. They estimated four equations: (1) the probability of college attendance; (2) the quality of the college attended; (3) the cost of the college attended; and (4) the probability of persisting to graduation. Their main goal is to estimate persistence probabilities, but they estimate the other outcomes jointly for statistical reasons.

One of the main objectives of the study was to shed some light on the debate regarding the appropriate weight that admission committees at postsecondary institutions should give to high-school performance and aptitude tests such as the SAT. Manski and Wise argue that critics made two assumptions in the 1990s: that tests were restricting access to higher education and that tests are poor predictors of who will succeed in college, thus they may not provide optimal investment decisions and may unjustly limit the educational opportunities of some students. The results of their study suggest that the effect of test scores is more important for the application decision than for the admission decision. To validate this point, they documented how in the 1970s, most individuals who would have applied to college would have been admitted at schools of average academic quality.

The authors find that high-school rank and SAT scores are of equal importance in determining college attendance, college quality, and college cost. After controlling for all other individual and family background attributes, however, the relationship between class rank and persistence is over three times greater than the relationship between SAT scores and persistence. The authors then do some simulation analysis to illustrate the probabilities of dropping out for individuals with different levels of SAT scores and high-school class rank. The results are interesting because they illustrate that even though there is a correlation of 0.5 between SAT scores and high-school class rank, when the authors explore differences in dropout probabilities given class rank, they find that the dropout probabilities vary greatly with SAT scores. They conclude that although, on average, colleges could predict dropout reasonable well on the basis of class rank alone, in some instances these predictions would be far from the actual dropout probabilities. They say that if individuals' SAT scores are very different from their expected SAT scores, given class rank, they would be either substantially advantaged (in the case of a low SAT) or substantially disadvantaged (in the case of a high SAT).

In their closing remarks, the authors suggest that at least in the 1970s, individuals were self-selecting into college, and only 55% of high-school graduates were enrolling at a postsecondary institution. This suggests that 30 years ago the problem was more related to individuals actually not enrolling in college. They conclude by saying that their estimates are consistent with rational choice theory in that the individuals who are more likely to persist are the ones who are applying to college. In other words, individuals who have the lowest probabilities of enrolling in college are also the ones with the highest probability of dropping out. This model illustrates one of the best examples of work that is theoretically grounded and empirically based, with sound statistical techniques to test the implications of the theory.

One limitation of this study that the authors acknowledge is the lack of controls for high-school academic preparation. The first longitudinal study that they used, the National Longitudinal Study (NLS) of the High School Class of 1972, did not have substantial information about the level of high-school academic preparation. They also acknowledge that SAT scores tend to be associated with socioeconomic status, and for this reason might be capturing some information related to the income effect that is not included in the model. After acknowledging these limitations, the authors conclude that their findings are consistent with economic theory and in particular rational choice theory.

As illustrated by the work of Manski and Wise (1983) one of the advantages of using human capital theory is that it can be used to address a broader set of research questions. In this particular example the authors used the framework to explore differences in probabilities in access according to the probabilities of attending college, as well as the implications of using different criteria in admission policies for access. Their model can be expanded to address the association of specific factors to the process of persistence and attainment, as well as to try to identify the association between specific policies and college persistence and attainment. In the last part I describe another model that can be adapted by the field of higher education to explore factors and policies associated with college persistence and attainment.

Life Cycle Schooling and Dynamic Selection Bias Model—Heckman and Associates

James Heckman has contributed substantially both theoretically and empirically to the field of microeconomics.⁵ In this section I describe one of the theoretical models that he developed with Steve Cameron (Cameron & Heckman, 1998), the life cycle schooling and dynamic selection bias model. The motivation for their paper was to explain an empirical regularity: that family influences on the probability of transitioning from one grade level to the next diminish at higher levels of education. They argue that the corrected models reveal that family characteristics have a larger impact than the one suggested by piece meal models. Their main conclusion is that educational selectivity caused by omitted variables obscures family background effects. They conclude that the universal empirical regularity that has dominated the discussions in the educational attainment literature comes from the choice of the functional form of the estimating equation. They then proceed to investigate whether the school transition model can be rationalized by a coherent economic framework (very much in the same tradition as the work by Manski & Wise, 1983), and whether it is possible to test the hypothesis of educational selectivity without assuming arbitrary functional forms.

They derive a series of models and conclude that the ordered discrete choice model is the one that better fits the data. They then use the model to ask whether the effect of family income is related to a short-term liquidity constraint, or to long-term factors. The results of the model contradict previous models and indicate that the effect of family income is high. The authors then explore whether it is economically efficient to provide a subsidy for low-income families. Their controversial answer is no, and they justify it by saying that the effect of additional financial aid is zero once you use controls for academic ability. They interpret this evidence as suggesting that the cross-section effect of family income on schooling is due to long-run family background effects that produces the academic ability that they measure using the Air Force Qualifying Test (AFQT), and not liquidity constraints. A natural extension of this conclusion is that any additional resources are better spent in high school rather than solving temporary liquidity constraints in higher education. Additional resources spent in high school will probably increase the probability of enrolling and succeeding in college.

In summary, the rational choice theory used in economics is an important lens that students, faculty, researchers, and policy makers can use to study the complexities of the process of college persistence and attainment. As Paulsen noted, rational choice theory has some simplifying assumptions that are questionable given the substantial empirical evidence documenting the complexity of students' decision-making process and the differences in access to information by socioeconomic and racial/ethnic groups. However, economists have developed estimation models that make it possible to address issues such as self-selection while estimating

⁵For a detailed description of his contributions see Heckman (2001).

models that have relevant implications for the development of institutional, state-, and federal-level policies. In the next section, I review the major theories developed in sociology.

Sociology

Sociologists have been deeply concerned about the process of social stratification and a substantial number of studies have been grounded in status attainment (Sewell, Haller, & Portes, 1969), and reproduction theory (Bourdieu, 1973, 1986). In recent years a new trend in sociological research has emerged that is more closely related to rational choice theory (Breen & Goldthorpe, 1997; Morgan, 2005). In this section I elaborate on these three theories.

Theory of Social Reproduction—Bourdieu

Pierre Bourdieu is one of the most influential sociologists of the twentieth century.⁶ His work has been not only used by sociologists but also applied in a number of fields such as education, anthropology, language and communication, and sports. Bourdieu developed a complex and esoteric conceptual apparatus to illustrate how social reproduction is enacted in societies. Below I provide a brief description of his major conceptual developments, and I refer the reader to his own work (Bourdieu, 1973; 1986) as well as a number of less esoteric translations (Swartz, 1997), and applications of the theory is particular to the field of education (McDonough & Nuñez, 2007; Musoba & Baez, 2009; Stanton-Salazar, 1997).

McDonough and Nuñez (2007) provide an accessible description of the major concepts developed by Bourdieu. Bourdieu's work stands in contrast with that of rational choice theorists and is considered part of structuralist theory; in his view, it is the societal structure that determines an individual's place in society. Even though he accepts that wider access has enabled students with lower socioeconomic status to enter the educational system, he argues that education is the most successful vehicle to reproduce social inequalities. According to Bourdieu, groups that are dominant use a subtle process to perpetuate their place in society. Unlike traditional rational choice theory in economics, which states that individuals want to maximize utility given some constraints, and that by "investing" in their human capital they will maximize productivity and earnings, Bourdieu argues that individuals maximize social interactions to maximize social profits and maintain social status. However, the process is not straightforward and it is this complicated mechanism that enables the dominant classes to create and legitimate distinctions that are functions of power. This power, in turn, legitimizes itself by legitimizing

⁶It is important to remind the reader that this is not a comprehensive review of Bourdieu's theory. It is beyond the scope of this paper to describe in detail the complexity of his theory. The goal of this section is to provide a first good understanding with the hope that scholars will study his work along the book by Swartz (1997) that presents a more accessible review.

the distinctions that it produces (Musoba & Baez, 2009). Bourdieu broadens even further the different forms of capital (i.e., economic, academic, cultural, social, and symbolic), and explains how individuals use and convert these forms of capital to maintain their social status. His theoretical apparatus is based on these five different types of capitals, as well as the concepts of *habitus* and *fields*.

While economic and academic capitals are familiar terms in traditional economics, Bourdieu expands this idea to cultural, social, and symbolic capitals. He acknowledges the traditional form of capitals described in economics: *Economic capital* is defined as financial wealth in different forms, and *academic capital* is the set of academic and vocational skills accumulated by individuals that is the evidence of their current success in education. He then theorizes three additional kinds of capital: cultural, social, and symbolic. He defines *cultural capital* as a series of attitudes that socioeconomically privileged parents pass, along with economic capital, to their children. He provides examples of different states that this form of capital can take. The embodied state, for example, is basically the cultivation of skills valued in social interactions, such as exposure to foreign languages and appreciation for certain forms of art and culture. The objectified state describes how individuals own specific objects—books or works of art, for example—that are used to convey their access to cultural capital. In the institutionalized state, cultural capital takes the form of credentials such as degrees, diplomas, and fellowships.

Social capital is different from cultural capital in its emphasis on social network resources that are available to individuals. This form of capital, and its implications for the process of educational stratification, has been perhaps his most important contribution to sociology (Coleman, 1988) and education. In the educational setting it has been operationalized as peers, community members, and educational agents who advise the students during the educational process. Finally, Bourdieu identifies *symbolic capital* as being related to cultural capital, and used by the dominant classes to assign meaning and value to certain forms of resources.

Bourdieu proceeds to explain how access to these forms of capital is associated with the individual's *habitus*. He explains how individuals can be restricted by their *habitus*, which is defined as a durable and transportable set of subjective perceptions, thoughts, appreciations, dispositions, and actions that individuals take from their environment. This suggests that it is within the *habitus* that individuals get access to specific levels of social and cultural capital. The last concept that Bourdieu uses in the construction of his theoretical apparatus is *field*. A field can be defined as a structure of social positions which is, in turn, determined by a set of power relationships. This is not a deterministic concept because it is the relationship between the individuals, the groups, and the institutions that determine at any given time the structure of the field. Musoba and Baez (2009) explain how power is determined by the particular social and cultural capital valued by the field, and in this sense these two forms of capital do not totally determine the power structure. The process is described as one where the social and cultural capitals are determined and reinforced by the *habitus* but enacted and “cashed in” in fields of practice.

Sociologist James Coleman adapts Bourdieu's work into a more mainstream strand of American sociology. Coleman describes how social and cultural capital

can be transformed in the creation of human capital (Coleman, 1988). He is also one of the pioneers in trying to operationalize this complex construct of social capital in order to measure its contribution to education through quantitative empirical applications. Musoba and Baez (2009) argue that Coleman's adaptation of social capital removed the structuralist perspective and provided a very American understanding of agency and individualism.

I would argue that the complexity of the conceptual apparatus described by Bourdieu makes it very challenging to apply in a rigorous way using traditional empirical quantitative techniques. Specifically, one of the main problems with most of the quantitative empirical applications of Bourdieu is the lack of clarity and coherence when trying to quantitatively measure the different forms of capital. However, this does not mean that quantitative empirical researchers should ignore the importance of social capital but that they should develop and validate instruments similar to those developed by social cognitive theorists to capture extremely complex individual personality traits.⁷ This illustrates the type of inter-disciplinary work where education, sociology, and psychology can work together to provide a more solid empirical application of a sociological theory in the field of education.

A number of scholars in higher education have incorporated the concepts of social and cultural capital into conceptual frameworks defined to explore issues related to access to higher education (Perna, 2006; Perna & Thomas, 2008). These concepts are also relevant for the process of college persistence and completion, and the field should learn from the empirical applications used by sociologists (DiMaggio, 1979, 1982; Dumais, 2002) to incorporate these concepts into their models. The use of structural theories would also broaden the set of research questions as well as the methodological strategies that have dominated the higher education field in the last two decades.

Sociological Rational Action Models

A major difference between the fields of economics and sociology is that, with the exception of the work of Bowles and Gintis (1976), economists have mostly used rational choice theory to develop statistical models with which to do empirical estimations. Rational choice theory assumes that individuals engage in a process of utility maximization that implicitly assumes that individuals are constrained by individual resources but do not face major societal constraints. One natural extension of rational choice theory is that it is up to the individual to attain the desired level of education and attain a higher social status. Sociologists, on the other hand, have been mostly preoccupied with social stratification and thus assume that specific structures in society restrict individual rational choices and social mobility. Manski (1993) illustrates this dichotomy and argues that whereas economic approaches offer a framework to understand decision making, they are constrained by the common

⁷For applications of Bourdieu's theory to education see DiMaggio (1979, 1982) and Dumais (2002).

assumption of perfect information. On the other hand, he argues that sociological approaches are useful to identify how individuals gather information in different ways but they are limited in that they don't identify the ways in which individuals make decisions based on this information. Below I describe two recent pieces of work in sociology that use rational choice theory to explain the process of stratification. The work by Breen and Goldthorpe (1997) illustrates how rational choice not only simplifies a model but also simplifies the main contribution of sociologists to the field. The work by Morgan (2005), on the other hand, illustrates how concepts developed in sociology and economics can be combined in sophisticated statistical models and gain in understanding of the complex process of persistence and attainment.

A Statistical Model of Social Stratification—Breen and Goldthorpe

A recent strand of sociology proposes rational choice theory as a legitimate way of explaining social stratification. Breen and Goldthorpe (1997) have developed a statistical model of social stratification to explain some empirical regularities that they have found in the data. Their model enables researchers to explain how social stratification has persisted despite a substantial increase in access and reductions in the cost of education for families from lower social backgrounds. They ground the model in rational choice theory, one of their main assumptions being that children and families act rationally when choosing among the different educational options available to them by evaluating costs, benefits, and perceived probabilities of more or less successful outcomes. The authors depart from traditional sociological perspectives because even though they acknowledge differences in culture and social norms, they argue that they are not related to the rational decision-making process:

Thus, in so far as class specific norms may be identified—which is an empirical issue—we could recognize them as serving as *guides* to rational action that may have evolved over time out of distinctive class experience and that may substitute for detailed calculation when educational choices arise (p. 26).

Breen and Goldthorpe's (1997) model provides a simple way to explain differences in the decision-making process of individuals from low and high socioeconomic status families, and how these choices may restrict social mobility. Even though they state that the model accounts for differences in choice, they begin with differences in education between the two groups, and assumptions about the relative risk of following a particular educational pathway. One of their explanations for the lack of social mobility is that the relative risk of downward mobility is higher for individuals from low-income families than for those who are from high-income families. They conclude that this is because young people and their families value upward mobility less than they fear downward mobility which results in a state of immobility.

This is a rational choice model because the authors conceptualize that it is the individual who is not choosing to advance, instead of a system that is structured to maintain social stratification. A problem with this approach is that the simple

statistical model used is basically ignoring the complexity of the issue that they want to measure. Economists like Manski and Wise (1983) and Heckman and his colleagues have developed much more sophisticated statistical models to account for the complexities of the decision-making process. While Breen and Goldthorpe's model contributes by modeling social stratification, it is unfortunate that they ignore differences in access to information.

Comprehensive Model to Study College Attainment—Stephen Morgan

Stephen Morgan's (2005) book, *On the Edge of Commitment: Educational Attainment and Race in the United States*, overcomes some of the limitations of Breen and Goldthorpe's (1997) work and provides a comprehensive model with which to study college attainment. Morgan proposes a new conceptual framework by unifying rational choice and socialization theories, therefore incorporating the complexities of the information the students use to make college decisions into the model. He describes the model as a mechanism-rich model of educational attainment that incorporates agency and beliefs in credible ways.

Morgan starts by reviewing the Wisconsin model of status attainment (Sewell et al., 1969; Seller & Hauser, 1975). He defines it as a model of achievement socialization. This model stipulates that if adolescents' motivation is compelled through the internalization of achievement aspirations, then educational attainment will result. He then argues that by unifying rational choice and socialization theories, his proposed model can be seen as a sociologically informed refinement of the basic rational choice model of educational attainment. The model is built on a Bayesian learning foundation. In simple terms, this theory is a representation of how people form and revise beliefs about courses of action that are important to them. He provides an intuitive example of the use of Bayes's theorem in decision making by illustrating how a young assistant sociology professor calculates the probabilities of having a manuscript accepted in a very prestigious journal. He argues that the assistant professor first estimates the probability of having an immediate or eventual acceptance at about 0.35. The assistant professor then talks to her mentor about the mentor's own beliefs of the paper being accepted. According to the mentor, the probability is much higher than the initial probability estimated by the assistant professor (it increases from 0.35 to 0.46). Morgan argues that in practice it is unlikely that the young sociologist will change her prior beliefs as far as the mentor's assessment, but he argues that nonetheless this theorem is a standard against which possible behavioral departures can be measured. He concludes:

The basic rational choice model of educational attainment, built on a Bayesian learning foundation, allows education expectations to become self-fulfilling prophecies by regulating beliefs about future decisions on which students must condition their current behavior, and yet educational expectations are open to other mechanisms, some of which may have only a loose connection to the sorts of costs and benefits that one would customarily specify in a rational choice model of educational attainment. The model can be seen as an attempt to use the explicitness of rational choice theory to realize the core mechanisms of the Wisconsin model, and, in the process, open that mechanism up to additional important causes of educational attainment. (p. 52)

Morgan provides a detailed description of the proposed model. He starts by presenting a schematic representation of the preparatory commitment model of educational attainment. He defines pre-figurative commitment as a decomposable control criterion for current behavior. For education, he defines three dimensions: purpose pre-figurative commitment, normative pre-figurative commitment, and imitative pre-figurative commitment. These three types of pre-figurative commitment are set in response to three forward-looking prediction rules: “I will go to college if I perceive it to be in my best interest to do so,” “I will go to college if my significant others perceive it to be in my best interest,” and “I will go to college if I expect other students similar to me will also go to college.” He then uses a simple decision tree to illustrate the college entry decisions followed by a series of simulations that illustrate:

Students’ pre-figurative and preparatory commitment are functions of how clearly their stochastic decision trees identify a preferred course of future action. In particular, students whose beliefs are based on abundant information are more likely to clearly identify and then commit to a favored course of action. A primary implication of the framework is that individuals with accurate but sparse information on the potential benefits of a college education may not prepare themselves adequately to attain what they suspect is their best interest. And even if they do enter college, they may not be well position to harvest all of the returns to having made such a utility-maximizing decision because of a lack of prior preparation (p. 132).

Morgan argues that his proposed framework contributes to the study of attainment by drawing on the complementary strengths of economics and sociology. This is an example of thoughtful inter-disciplinary work that attempts to move the field beyond simple empirical applications of poorly measured constructs. He proposes a new set of tools as well as different ways to measure educational expectations in order to move the field forward. This is an inter-disciplinary conceptual framework that has not been used in higher education, and scholars and graduate students could start testing it empirically. In the last part of this section I review some constructs developed by psychologists that also accounts for college persistence and attainment.

Psychology

One of the main criticisms of Tinto (1975) within the field of psychology was that by focusing mostly on the association between individual cognitive and non-cognitive characteristics and educational outcomes, it was necessarily leading to a deficit model where students were the only ones accountable for attaining their outcomes. Bean and Eaton (2001), for example, point out that Tinto fails to explain the mechanism through which students become academically and socially integrated. Bean and Eaton (2001) propose a departure model in which three psychological theories are used to explain how students become academically and socially integrated. In this section, I show how these three theories have been applied to the process of college persistence to illustrate the association between specific non-cognitive

characteristics such as self-efficacy (Bandura, 1977), self-control (Rotter, 1966), and coping skills (French, Rodgers, & Cobb, 1974) with learning and motivation, resulting in student academic and social integration. Since the field of psychology has not developed a persistence theory, in this section I will also focus on empirical applications of individual non-cognitive characteristics associated with the process of persistence.

Non-cognitive Characteristics: Self-efficacy—Bandura, Self-control—Rotter, and Coping Skills—French, Rodgers, and Cobb

Albert Bandura (1977) developed the concept of self-efficacy, which can be defined as an individual's perception of his or her ability to act in a certain way to ensure certain outcomes. Individuals develop a sense of how effective they are at dealing with particular tasks or situations based on observations and past experiences. Self-efficacy is task specific. When individuals believe that they are competent they gain in self-confidence and develop higher levels of persistence and achievement with regards to the task and develop higher goals for task achievement. As mentioned above, Bean and Eaton (2001) argue that Tinto's (1993) theory of student departure does not provide a mechanism to explain how students become academically and socially integrated in an institution. They claim that institutions can focus on increasing students' self-efficacy and that this will translate into greater levels of academic and social integration. Unfortunately, Bean and Eaton (2001) assume that by just creating programs, institutions will succeed in promoting these skills. As explained in greater detail by Bandura (1977), changes in self-efficacy are not automatic; they depend on the success of the type of intervention designed to generate the change. Bandura demonstrates experimentally how the level of change in self-efficacy varies by the type of treatment (i.e., performance accomplishments, vicarious experience, verbal persuasion, and physiological states). These results suggest that institutions would probably need to do more than just create learning communities or first-year freshmen experience courses to really generate the change in these important non-cognitive skills.

Bean and Eaton (2001) then use the concepts of copying behavioral theory (French et al., 1974) to argue that it is through the process of adapting to a new environment or new situations that individuals become academically and socially integrated. The third psychological theory they use is attribution theory (Rotter, 1966), particularly the concept of locus of control. They define it as the extent to which individuals see their past outcomes or experiences to be caused by internal or external forces. An individual with an internal locus of control believes that she or he is instrumental in her or his own failures, whereas a person with an external locus of control believes that past successes or failures are due to chance or luck. Where locus of control is internal, Bean and Eaton believe students' motivation to study and socialize to be high. They believe, in turn, that these efforts to study and socialize will lead to social and academic integration. Once again, they make a direct connection between these non-cognitive factors, academic and social integration, and college persistence without elaborating on the type of courses or programs

that might be more effective in enhancing these skills. The main limitation of Bean and Eaton's (2001) work is that even though they provide a mechanism to explain how students become academically and socially integrated, they don't define the characteristics of the programs that have the potential of successfully improve the non-cognitive skills.

In recent years, psychologists, higher education scholars, and economists have explored the association between non-cognitive factors and different measures of college success (Sedlacek, 2004; Stage, 1989) as well as labor outcomes (Heckman, Stixrud, & Urzua, 2006). Sedlacek's (2004) work is grounded in the work of Sternberg (1985) who questions traditional measures of intelligence and advocates other forms of intelligence such as emotional intelligence, componential intelligence, experimental intelligence, and contextual intelligence that describe students' ability to adapt to changing environments and interpret information in changing contexts (Sternberg, 1985, 1986).

Sedlacek (2004) identifies eight non-cognitive variables: positive self-concept, realistic self-appraisal, preference for long-term goals, availability of strong support person, leadership experience, community involvement, and knowledge acquired in a field that according to him appear to be in Sternberg's experiential and contextual domains. He argues that these non-cognitive factors are correlated to college success, persistence, and attainment for non-traditional students. Furthermore, he advocates their use to complement traditional measures, such as the SAT, that tend to be correlated with socioeconomic status and therefore favor more traditional middle-class students. He has created instruments to measure these dimensions, and for the past 30 years has tested these instruments in different settings (i.e., liberal art colleges and elite institutions) and for different populations of students (i.e., race/ethnicity, nationality, gender, age) confirming that there is indeed a positive association between them and college success and persistence. These non-cognitive measures have been used in a number of different settings: admission committees at different type of institutions, or high-school and college counselors. Most recently, the Gates Millennium Scholars (GMS) program, funded by the Bill and Melinda Gates Foundation, used these measures in the selection process for their program. In summary, there appears to be growing consensus from psychology, economics, and higher education that non-cognitive measures are important in the process of college persistence and attainment.

Finally, two examples of empirical applications have tested successfully the association between some of these non-cognitive variables and college persistence and other labor outcomes (Heckman et al., 2006; Duckworth, Peterson, Matthews, & Kelly, 2007). Heckman et al. (2006) test whether a vector of cognitive and non-cognitive skills can explain a variety of labor market and behavioral outcomes. They test two non-cognitive factors: locus of control (Rotter, 1966) and self-esteem scale (Rosenberg, 1965), using a methodological strategy to control for reverse causality, measurement error, and heterogeneous responses. They find that non-cognitive skills raised wages not only through their direct effects on productivity, but also through their indirect effect on schooling and work experience. They conclude that both cognitive and non-cognitive abilities determine social and economic success. In recent

work, Duckworth et al. (2007) define and test a personality trait, grit, defined as perseverance and passion for long-term goals. They test this construct in a number of settings: undergraduates at an elite institution, undergraduates at West Point, and finalists in a 2005 Spelling Bee. They found that this variable was negatively associated with ability measured by IQ, and that it predicted success beyond IQ. They conclude that the achievement of difficult goals entails not only talent, but also sustained and focused application of talent over time.

In summary, one of the main contributions of psychology to the process of persistence and attainment has been to identify a number of personality traits or non-cognitive factors that are associated with learning and motivation and translate into college persistence and attainment. It is also encouraging to see scholars in other fields such as economics and higher education incorporating these constructs into their models. The contribution of psychology is particularly important given that it has identified non-cognitive traits as potential mechanisms to increase college persistence and attainment. In other words it brings us back to the fact that individuals enroll in college to attain knowledge and skills, and that the learning process is mediated by previous academic preparation as well as non-cognitive factors. This in turns opens up a substantial number of research questions related to either getting a better understanding of how the learning process is associated with college persistence and attainment or measuring the knowledge and skills that students gain when they enroll and graduate from college.

This concludes the critical review of the theories developed in education and other social sciences to explain the process of college persistence and attainment. In the concluding section of this manuscript I go back to the empirical review in Table 10.1, and after reviewing the most common research questions that have dominated the field of higher education in the last 20 years, I propose other research questions that could be pursued using some of the conceptual framework/s described above.

Brief Summary of the State of the Art of Research on College Persistence and Attainment in the Field of Higher Education

In the last section of the chapter, I briefly describe the list of papers that have addressed issues related to college persistence and attainment in the top three journals of higher education in the last two decades (see Table 10.1). My goal is to simply illustrate the state of the art of the higher education field in terms of the most common research questions asked, conceptual frameworks used, and methodological strategies employed.

A careful analysis of the scholarship published in the top three education journals in the last two decades suggest that the field is relying heavily on Tinto's conceptual framework (Bensimon, 2007) that most of the scholarship related to college persistence and attainment is using quantitative methodological strategies, and that there are serious problems with the most common methodological strategies used, such as neglecting the problem of self-selection of students into college. The fact that testing or expanding Tinto's model continues to dominate the field is worrisome,

and this has limited the research questions that have been the focus of attention of the higher education community. To illustrate this point below I provide a list of the most common research questions addressed by the papers published in the top higher education journal, the *Journal of Higher Education*, in the last 20 years: Do student perceptions of their own college experiences support Tinto's model? To what extent adding life task predominance into Tinto's model improve persistence predictions? To what extent certain forms of active learning influence social integration, subsequent institutional commitment, and student departure decisions? Does engagement during the first year of college have a significant impact on first-year grade-point average and chances of returning for a second year of college, net of the effects of student background, pre-college experiences, prior academic achievement, and other first-year experiences? What are the indicators of the student's academic and social integration into college for an older Hispanic 2-year college population? Can relationships among cultural norms, motivational orientation, academic achievement, and persistence be incorporated into Tinto's theory in order to strengthen it, enhance its cultural sensitivity, and make it more descriptive of minority student achievement and persistence? Does the institutional climate for diversity, such as the structural and psychological dimensions of diversity, influence the withdrawal behavior of undergraduate students at 4-year institutions? And one of the most recent articles: How does the campus racial climate influence degree completion among different racial populations? Even though most of the research questions in the papers attempted to test one or more dimensions of Tinto's model, a fewer number of scholars addressed research questions related to the role of financial aid, or focused on the role of specific institutional characteristics, or policies on the process of college persistence and attainment. Partially as a result of the focus on Tinto's theory the higher education field has contributed substantially in terms of expanding the understanding of college student experiences in persistence. However, the focus on this theory has narrowed the set of research questions as well as other important aspects such as the roles of financial aid, transition from high school to college, developmental education, and the role of faculty characteristics or teaching strategies on college persistence and attainment. In the final part I conclude with some recommendations in terms of the research questions, conceptual framework/s, and methods that have not been generally used, and that have the potential to contribute to the understanding of college persistence and attainment.

Recommendations for Future Research on College Persistence and Attainment

Based on the limitations noted above, in this section I conclude by offering three recommendations to the field. First, researchers in higher education have the opportunity to address a wider set of research questions that have not been studied in depth by education scholars such as associations between state policies and persistence, evaluation of program initiatives developed to promote persistence, the influence of faculty characteristics and learning strategies on student learning and persistence, implications of changes in accountability in the skills and majors pursued by the students. This is just a small list but it serves to illustrate the need

to broaden our spectrum of questions. Some of these research questions have been the focus of either other disciplines such as economics, psychology, public policy, or even K-12 education policy. This suggests that as a field we need to engage in more inter-disciplinary work which implies learning and utilizing other conceptual frameworks. Second, the substantial majority of the work on college persistence and attainment has been quantitative. This is very intriguing given that most of the training that students in schools of education receive is qualitative, and most of the work presented at major education associations, such as the American Education Research Association (AERA), and the Association for the Study of Higher Education (ASHE), is qualitative. There is space for more large-scale qualitative or mixed methods studies that focus on the process of college persistence and attainment. Third, quantitative scholars in higher education need to expand their methodological tool kit, and use a broader set of strategies that are capable of addressing the difficult issue of self-selection of students into institutions. Below, I expand on these recommendations.

Expand Research Questions and Apply, Combine, and Test Conceptual Frameworks from Other Disciplines

The fact that the field have heavily relied on a single conceptual framework for so long have basically dictated the research questions addressed. This resulted in important contributions in terms of how student engagement affects persistence, but it also crowded out other important research questions that are crucial to gain a better understanding of the complexities of the persistence and attainment process. The field should take advantage of important theoretical developments in other fields such as economics, sociology, and psychology, and test them empirically. The second part of Braxton's (2000) edited volume, *Reworking the Student Departure Puzzle*, presents important work from scholars in higher education, suggesting alternative conceptual frameworks, as well as combination of frameworks from other social sciences.

Expand the Use of Qualitative Work and Broaden the Factors Studied

It was striking to find that with few exceptions most studies that address the question of student persistence and attainment use quantitative methods. This is surprising given that qualitative researchers are over-represented in the field. There is room for large-scale qualitative studies exploring other important aspects such as the role of faculty, as well as how different pedagogical strategies enhance learning in higher education.

The Field Should Build a More Comprehensive Methodological Toolkit

Scholars and graduate students in higher education are encouraged to continue expanding their quantitative methodological toolkit. The reviewed studies suggested that scholars have used mostly simple regression, logistic regression, structural

equation models, and hierarchical linear models. Nonetheless, the review of studies suggested that with few exceptions, scholars continue to neglect the problem of students' self-selection that is inherent in research questions related to the process of college persistence and attainment. Students and scholars should acknowledge this problem and use statistical techniques, such as instrumental variables (Heckman, 1979; Lee, 1983), propensity score matching techniques (Black & Smith, 2004; Dehejia & Wahba, 1999; Melguizo, Kienzl, & Alfonso, in press), regression discontinuity techniques (Cook & Campbell, 1979; Bloom, Michalopoulos, & Hill, 2005), and randomized control trials, to correct or at least ameliorate the problem.

The comprehensive review of the studies on college persistence and attainment in the last 20 years suggests that as a result of focusing on a single theory, the research questions that have dominated the field are relatively narrow and that there is space in the field of higher education for expanding the set of research questions, conceptual frameworks, and methodologies most widely used. I expect that the review of theories and conceptual frameworks presented in this study would motivate graduate students and scholars to look beyond Tinto's theory and incorporate important theoretical developments from other fields to continue to contribute to the understanding of the process of college persistence and completion.

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Chapter 11

Using Student Development Theories to Explain Student Outcomes

Vasti Torres

One of the main goals of higher education is to foster development or learning in students that provides them with the “potential for lifelong growth and effective citizenship” (Arnold & King, 1997, p. vii). While this goal is often reflected in general education outcomes across institutions of higher education (Association of American Colleges & Universities, 2008), its measurement is elusive—with most quantitative studies reporting larger gains in content knowledge and smaller gains along developmental dimensions such as critical thinking (Pascarella & Terenzini, 2005). Rubrics that focus on individual gains (Rhodes, 2010) provide good assessment information, yet their results can be difficult to aggregate for large-scale studies. Although research articles have articulated many reasons why student development goals can be difficult to measure, essential concepts from student development theory have been missing in their explanation of the findings.

Students’ development is dependent on many external and internal factors such as environment or context (Bronfenbrenner, 1993), level of challenge and support (Piaget, 1964/2003; Sanford, 1969), and individual readiness to grow or motivation (Perry, 1970; Sanford, 1962). Such well-tested concepts have been part of the student development literature for many years, yet these advances in understanding how students development are often not incorporated into higher education research. This chapter seeks to elaborate on ways that student development theories can be used to explain and refine perspectives on the college experience—potentially improving the quality of higher education research and, in this era of accountability, helping higher education communicate how college affects students.

To elaborate on the processes involved in explaining how students develop, this chapter begins with an overview of how the term “theory” is used in higher education research. A concise summary of student development theories follows, along with how these theories can be used to explain research findings. The chapter concludes with recommendations for improving research on students by considering a focus on students’ developmental tasks.

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Defining Student Development Theory

The term “theory” is used in multiple contexts and with multiple definitions within the literature in higher education. In general, a theory is considered to be testable through multiple research studies and is “aimed at organizing and explaining specific aspects of the environment” or the phenomenon (Pedhazur & Pedhazur Schmelkin, 1991, p. 180). This definition of a theory seems to be interpreted in different ways in different contexts. For example, the typical research article section within higher education uses the heading “theoretical framework” to present the researcher’s rationale—and these rationales are often based on existing research, not necessarily on actual theories. In quantitative studies these rationales are likely to explain why an independent variable would influence a dependent variable (Creswell, 2003). While many studies do use a theory or theories in their theoretical framework, this is not always the case. “Theoretical framework” is also sometimes confused with the idea of the theoretical perspective, i.e., the researcher’s own worldview or epistemological underpinnings (Jones, Torres, & Arminio, 2006). These perspectives are further explained later in the theories representing societal views section. Along with these observations it is important to differentiate types of theories; therefore three general categories of theories found to be prevalent in the higher education literature are explained: developmental theories, social science theories, and theories representing societal views.

Developmental Theories

Particularly when the topic pertains to student development, it is helpful to define how some theories are developmental and others are not. Developmental theories concentrate on the “organization of increasing complexities” (Sanford, 1969, p. 47) in the areas of general growth and increased capabilities that come with the development of identity and cognitive capacity (Evans, Forney, Guido, Patton, & Renn, 2010). In general, developmental theories are focused on the processes that cause and illustrate change versus just the actual change. The three sets of core principles found in developmental theories are as follows:

Change mechanism. The concept of “change mechanism” refers to specified processes that eventually produce change in ways that would be considered developmental (Green, 1989). In some theories, maturation or age produces developmental changes, yet these theories assume a healthy personality (Erickson, 1959/1980), which may be difficult to define in today’s complex and diverse society. Other theories posit that the disequilibrium or dissonance of what is known, or constant, causes individuals to question previous ways of knowing and to create different perspectives (Piaget, 1964/2003; Torres & Baxter Magolda, 2004).

Definitions regarding the phenomenon. Definitions regarding the phenomenon typically describe how development is conceived and measured (Green, 1989) and include operational definitions about how the phenomenon is being considered and how the developmental processes are conceptualized. For example, King and

Kitchener (1994) define reflective judgment as different from critical thinking in two ways: first, the “epistemological assumptions on which the thinking person operates” and, second, “the structure of the problem being addressed” (p. 8). These definitions assist researchers with understanding which developmental processes are being considered within a particular theory. This level of specificity can also be observed in the manner that authors label Chickering and Reisser’s (1993) vectors. Occasionally an author may refer to this as an identity theory (mainly because the term is in the title of the book), while others consider this to be a psychosocial theory that has identity as one of the processes (vectors) considered. Psychosocial theories explain a broader spectrum of life’s developmental tasks. The differentiation would be in defining the task that occurs in an identity theory which likely concentrates on the understanding and perception of self.

“Bridges” that connect processes within the phenomenon. The “bridges” connecting processes within the phenomenon explain the design of the theory and the concepts that illustrate the stages or statuses that exemplify development (Green, 1989). These concepts may have a trajectory from less complex to more complex understandings or they may describe a role in context without making any statement of it in relation to other aspects of the self (Torres, Jones, & Renn, 2009). The bridges illustrate how the concepts connect to each other and provide an explanation of the processes involved in explaining the developmental aspects of the phenomenon.

These core principles found in developmental theories distinguish change from development by asking why the change occurred. As an example, a student may have changed their point of view about an issue or attitude between the student’s first and final year of college, but a developmental theorist would be concerned with the thinking and reasoning behind that change. If the student changed their attitude on a topic because he/she now has a different set of friends and the new attitude is a reflection of the new friends and not his/her own thinking, then the change would not be considered developmental. Instead, the change would be attributed to the external influences of the friends on the student—not the student’s own thinking. This type of change would indicate little development had occurred, only a change in the external influences of friendships.

Social Science Theories

Social science theory focuses on a testable hypothesis that emerges from the research (Pedhazur & Pedhazur Schmelkin, 1991). With this type of theory, cumulative findings may be considered in aggregate as a hypothesis that could be consistently found in other research studies. An example of this type of theory in higher education would be Astin’s (1999) student involvement theory, in which he posits that the effort (defined by time and energy) students put into their involvement on campus is proportional to the quality of their learning and development. Astin acknowledges that this theory differs from a developmental theory in that it is concerned with the mechanism that facilitates development (involvement) rather than the developmental outcomes typically found in student development theories.

Theories Representing Views of Society

These theories explain a person's philosophical perspective or theoretical orientation based on his/her worldview. Although called different things in the qualitative methodological texts, these are often considered theoretical perspectives and are seen as influencing the lens through which the data was viewed (Jones et al., 2006). These theories elaborate on a view of the world and explain the phenomenon not in developmental terms but in terms of societal patterns of behaviors or thoughts. Common examples of this type of theory would be critical race theory (Delgado & Stefancic, 2001; Ladson-Billings, 1998), LatCrit theory (Delgado Bernal, 2002), and queer theory (Bilodeau & Renn, 2005; Halperin, 2003). In addition, many researchers within higher education use Bourdieu's (Bourdieu & Wacquant, 1992) cultural reproduction theory and Bandura's (1986) social cognitive theory in a similar way to explain how these perspectives influence the interpretation of the data.

Understanding how the term theory is used can assist in clarifying what type of theory is used and what purpose the theory will fulfill. Without clarifying how terms are defined, researchers may sometime use a term erroneously and thus create confusion within the research literature. With these definitions in mind, the next section will explain the current research around developmental theories.

Foundational Developmental Theories Integrated with Current Theoretical Understandings

Most higher education researchers are familiar with the foundational theories of Erickson (1959/1980), Perry (1970), Kohlberg (1984), and, perhaps, Belenky, Clinchy, Goldberger, and Tarule (1986). Since these foundational theories were developed, several newer studies have reconsidered, tested, revised, and re-conceptualized how these theories might be applied to today's college students. To integrate these foundational theories with the current conceptualization of developmental theory, in this chapter, the various types of theories are presented within the holistic constructivist developmental framework (Kegan, 1982). This framework intertwines the cognitive, identity, and interpersonal dimensions of development (Baxter Magolda, 2001; Kegan, 1994). Using this framework also allows for the consideration of the whole student rather than parts of the developmental process (Torres et al., 2009).

Some key organizing principles, or assumptions, underlying the holistic framework should be noted. The first of these is that constructivism assumes that knowledge is created and interpreted through the experiences of the individual, thus learning occurs by making meaning of the experience from the individual's perspective (Boes, Baxter Magolda, & Buckley, 2010). The second organizing principle is that the evolution of the self provides the "underlying structure that is developmental in nature" (p. 5). In other words, the meaning-making transformation is the

development of the person “rather than the accumulation of knowledge, skills, and information” (p. 5). This requires the researcher to consider the patterns of meaning making and to focus on *how* an individual knows what he/she knows. The change element in this framework depends on the relationship between the self (subject) and the external world, including other individuals (object). This changing relationship between subject and object, results in an individual moving from an externally influenced and defined way of knowing, being, and interacting; to an internally defined way of knowing, being, and interacting that is characterized by an internal sense of “one’s beliefs, self, and relationships with others” (Baxter Magolda, 2001, p. 70). This internally defined sense of self constitutes “being self-authored or self-authorship.”

Each of three dimensions in the holistic framework—cognitive, identity (intrapersonal), and interpersonal—answers a different life question. The cognitive dimension focuses on the assumptions about the certainty of knowledge and how claims about knowledge are made (Baxter Magolda, 2001). This dimension answers the question “How do I know?” The identity, or intrapersonal, dimension reflects how individuals view themselves and their values, answering the question “Who am I?” The interpersonal dimension manifests how an individual views his/herself in relation to others and how these views influence relationships with others (Baxter Magolda, 2001; Baxter Magolda, Abes, & Torres, 2009). This dimension answers the question “How do I relate to others?”

Each of these dimensions is presented by blending foundational theories with more current theories that advance what is known about development. This section begins by discussing the cognitive dimension because emerging research indicates this may be a pivotal dimension in the development of the self.

The Cognitive Dimension

The foundational theories about how students make meaning of knowledge begins with Jean Piaget (1964/2003), who described learning as occurring as a result of “provoked situations” (p. S8) that cause some type of disequilibrium within the individual by introducing new understandings and thus challenging what is accepted as knowledge. The individual, then, in a process of self-preservation, attempts to make meaning of this new knowledge in order to restore the previous level of equilibrium which provided relative certainty about what the person understood to be known in the world. The process of disequilibrium takes on a sequence of levels in which equilibrium must be established at lower levels before the individual can attempt to make meaning of disequilibrium at a higher level. Therefore, a person would gradually build the capacity to take on greater complexity at each level. The ability to handle more complex levels of disequilibrium is dependent on the development of capacity to make meaning at the previous level. As an example, in order to have a student understand that campus culture is socially constructed, the student must first transcend the notion that there is only one interpretation of right and wrong. If a student believes there is only one right answer it would be difficult to consider

that depending on one's background a campus culture could have multiple interpretations. This represents the gradual, yet deliberate, manner in which cognitive development occurs within an individual.

This foundational concept was later used by Perry (1970) in his description of how individuals "make sense" of their experiences by applying some sort of orderliness to their experiences. He called the disequilibrium brought on by the new experience "incongruence" and explained that individuals make sense of this incongruence through two processes: assimilation, in which the individual incorporates the new experience into previous experiences, or accommodation, in which the individual focuses on adjusting to the new experience. Assimilation, in Perry's scheme, can occur through "simplification or distortion" (p. 42) and accommodation can occur through "transformations which result in new forms of expectancy [ways to view knowledge]" (p. 42). It is via accommodation that the individual achieves insight—by reconstructing his or her own knowledge to meet the demands of the new experience.

Perry's scheme (developmental theory) provided structure for understanding college students' "assumptions about knowledge and values" (p. 43) by classifying them in nine positions across a single dimension of development. These positions imply no assumptions about time or age; therefore, an individual can remain at a position for any length of time—a lifetime or a year. Furthermore, while a position can reflect behaviors seen elsewhere along the dimension, position placement is based on the student's central tendency. And finally, positions reflect the point of view of the world from the individuals' perspective.

The developmental dimension of Perry's scheme was organized through a sequenced structure of four broad ideals: simple dualism, complex dualism, relativism, and commitment (Perry, 1970). Within this dimension, students move from simple dualism—believing authorities determine right and wrong—through multiplicity, relativism, and into commitment—where life choices are consistent with internal values and beliefs. Perry was the first among student development theorists to introduce the notion that individuals can retreat along this dimension, actively rejecting growth by entrenching themselves in earlier positions; this was conceived as happening only in the early positions. Perry also introduced the notion of temporizing and escape—in which an individual suspends growth for a time but then returns to the developmental dimension, or escapes and spends a prolonged period of time in the middle positions by denying the need for growth (1970).

Because Perry, with few exceptions, studied male students in his illustration and validation of his theory (p. 16), Baxter Magolda (1992) began a study examining the effects of gender on knowing and reasoning. Influenced by the work of Belenky et al. (1986) presented in *Women's Ways of Knowing*, she began a longitudinal study of college students that now spans over 20 years of interviews.

In her early work, Baxter Magolda (1992) identified four ways of knowing among college students. Although her goal was to examine differences by gender, she found more similarities than differences between the men and women. She framed her findings to illustrate gender-related patterns among some of the ways of knowing. In the first form of knowing, "absolute knowing," knowledge exists in the

absolute form of right or wrong. At this level, knowledge is certain and is provided by authorities. In this way of knowing, a gender-related pattern was observed in that women often used receiving patterns in learning, in which minimal interaction occurs with the instructor and the role of the learner is to listen and record information. In this pattern, questions are resolved through peer interactions. Many men, however, were observed using the mastering pattern, which requires a more active role in learning and interactions—and the use of peers and instructors was to assist in the mastering of the material. In the second form of knowing, “transitional knowing,” uncertainty is discovered—yet it is believed to exist only in certain areas, while other areas of knowing are believed to retain their certainty. Gender-related patterns were also observed in this second form of knowing, with some women preferring an interpersonal pattern and men preferring an impersonal pattern. The terms used to describe these gender patterns are self-explanatory. In the third way of knowing, “independent knowing,” both the process and the source of knowing change significantly, with students beginning to self-author their own ways of knowing and, thus, hearing others’ opinions without having to give up their own (Baxter Magolda, 2001). In this way of knowing there were also gender-related patterns, with women preferring an interindividual pattern allowing everyone to bring their perspective (or bias) to the question at hand. For men, the pattern was often individual in focus which allowed for sharing of ideas and having multiple perspectives, yet listening to others’ perspectives within this pattern was difficult and attention was most likely on the individual’s own opinions. In the fourth way of knowing, “contextual knowing,” individuals considered multiple perspectives, what experts think, and then integrated one’s own thought processes thus allowing the student to determine his/her own opinion in the context of the situation. While there were no gender-related patterns observed in this form of knowing, it should be noted that only 1% of the juniors and 2% of the seniors in Baxter Magolda’s study reached this level of knowing (2001). This low number of students indicates that higher education may not be having the desired effect of creating critical thinkers. In fact, by their senior year the majority of the participants in this study were only at the transitional way of knowing, illustrating that higher education may not be creating the venues and experiences necessary to promote graduates who can think critically and independently, as articulated in many general education outcomes desired by colleges and universities.

By following 39 of the original 100 participants in the initial study beyond college, Baxter Magolda found that developmental theories were not well equipped to handle the complexities of life (2001), and at this point she began to consider the work of Kegan (1994) to explain these more complex ways of meaning making that occur in life. Within the holistic framework, Baxter Magolda was able to consider that college graduates who tended to use the absolute knowing and some forms of transitional knowing were continuing to follow “external formulas” to determine what is knowledge and success. This indicated that they were allowing others (object) to determine their beliefs and life plans about the future. It was only when students began to question authority’s plan for their life or how knowledge is created that they entered the “crossroads,” where questioning of the life plan allows students to begin creating their own vision for their lives. As students’ understanding

of complexity grew they began to use independent knowing and therefore began to enter the “becoming author of one’s life” phase. In this phase the individual can choose his/her own set of values and beliefs. Entering the “internal foundations” phase of holistic development requires trust in one’s internal belief system and a sense of self that can withstand challenges to that trust; this way of understanding (knowing) has commonalities with contextual knowing.

By considering the holistic development framework, the complexities of life outside of college could be examined with a more nuanced understanding of how ways of knowing influence life decisions. This framework has also assisted other theorists in conceptualizing development. The need to consider other conceptualizations were needed because participants in Baxter Magolda’s study were mostly White students, therefore additional research was needed to provide context to issues of ethnicity and sexual orientation.

In her longitudinal study of Latino/a college students, Torres (Torres & Hernandez, 2007) found many patterns similar to those found by Baxter Magolda as well as some new ways of knowing among these Latino students. Latinos using external formulas trusted authorities but were more likely to define authorities as family and trusted friends and, to a lesser extent, institutionally recognized authorities. Only after experiencing a potential consequence, such as losing their financial aid because of insufficient academic progress, did students using external formulas seek out recognized campus authorities. Students enter the crossroads when they recognize multiple perspectives and begin to make their own choices; in this phase, these Latino students had an additional developmental task, which was the recognition of racism and how racism can influence their ways of thinking and perceiving knowledge. This process needed to begin in the cognitive dimension in order for the students to evaluate negative external messages that were racist in nature. Some of these messages included negative stereotypes or media messages about Latinos. Students began to transition into “becoming the author of one’s own life” when they moved from choices made by others to defining their own values and beliefs. This emerged among the Latino students when they made choices about how their culture would influence their lives. Within “internal foundations,” students were able to reflect and integrate cultural values, their own beliefs, and their own plans for their futures (Torres & Hernandez, 2007). Although many commonalities emerged between Baxter Magolda’s primarily White sample and Torres’s Latino sample, different developmental tasks emerged that should be considered when viewing the development of students.

Other studies found that high-risk students, many of which were students of color, had additional dissonance that prompted them to make meaning of the dissonance between how the students saw themselves and how others perceived them (Pizzolato, 2003). This finding also contributes to the understanding that this additional cognitive task of having to make meaning of stereotypes may prompt development at an earlier point for students of color as a result of managing this dissonance created by these negative imagines.

Abes (Baxter Magolda et al., 2009) considered the holistic framework in her study of lesbian college students and found that several stages of Cass’s homosexual

identity development relied on external formulas. Although external influences facilitated “development from negative to positive associations with one’s gay identity” (p. 193), the students who relied on these continued to be externally defined. Students in the crossroads made positive meaning of their sexual orientation identity. The participants in this study also struggled with the negative perceptions of lesbian relationships and needed an internal sense of self to see these relationships as positive. This internal voice allowed students to reconsider perceptions of normalcy in regard to sexual orientation (Baxter Magolda et al., 2009).

The current research within this dimension of development raises two important issues that should be noted about the cognitive development. First, in the work of both Baxter Magolda (2001) and Torres (Torres & Hernandez, 2007), few college students developed ways of thinking that were self-authored after 4 or 5 years of colleges. The majority of students in their fourth year of college had developed ways of thinking that would be considered the crossroads—having implications for the level of cognitive gains that can be realistically expected among students. Second, both King (2010) and Torres (2009) make the case that the cognitive dimension may take the lead in development toward self-authorship—because a shift in ways of knowing is necessary to move a person toward internal foundation in the other dimensions of identity and interpersonal relationships. This indicates that level of cognitive development should be considered when attempting to understand how college affects students.

The Identity (Intrapersonal) Dimension

Identity formation is defined at various stages of life as a balance between self and other people, societal norms, and/or cultural expectations (Kegan, 1982; Kroger, 2004). This interplay between the self and the outside world is why identity is seen as socially constructed and vulnerable to the sociocultural influences within the context (environment) in which the individual interacts (Kroger, 2004).

Identity theories currently in use evolved from earlier theories that typically included the concept of ego development and provided broad overviews of an individual’s approach to organizing experiences during the lifespan. These theories focused on three interacting elements: (1) biological characteristics; (2) psychological needs, interests, and defenses; and (3) cultural environment (Kroger, 2000). Erickson (1959/1980), the best known of the lifespan theorists, defined ego identity as “certain comprehensive gains which the individual, at the end of adolescence, must have derived from all of his[her] pre-adult experience in order to be ready for the tasks of adulthood” (p. 108). As a sense of identity develops within the individual, greater capacity for complexity is incorporated into the individual’s personal and social identities (McEwen, 2003).

Research by theorists who consider college student identity development build on the identity statuses created by James Marcia. In his early work, Marcia (1966) used semi-structured interviews (which he found to be more successful) and performance on other task measures to profile four statuses describing identity development in

late adolescence. While the sample in this study consisted of 86 college men, later similar research with women (Marcia & Friedman, 1970) found general applicability of the statuses to women. Like Erickson, Marcia viewed identity as a process of resolving crisis about how one identifies her/himself and committing to a way of being as the central processes of identity. The statuses—foreclosure, identity diffusion, moratorium, and identity achievement—and their updated research are as follows:

Foreclosure. The students in the foreclosure status of Marcia's study had experienced no crisis, yet their commitments were based on others, primarily parents (Marcia & Friedman, 1970). Characterized by obedient behaviors, these participants were vulnerable to negative information and had unrealistically high goals (Marcia, 1966). Later research found more men than women in the foreclosure status but did not find significant gender differences in the other statuses (Marcia, 1993). Adults that continue to experience no crisis might form relationships that have the form of intimacy—thus connecting with a person who is “suitable” as a partner—but not necessarily having the content of an intimate relationship (Marcia, 2002).

Identity diffusion. Students in the identity diffusion status may or may not have experienced crisis, the hallmark of this status being no noticeable commitments (Marcia, 1966). Those in this status are distinguished from those in the moratorium status because they lack a struggle or attempt to make commitments to their own values (Marcia & Friedman, 1970). They may say they prefer an occupation, for example, yet they have little information about what a person would do in this occupation or how to accomplish this goal—thus giving the impression that the idea could be abandoned. As adults they could be predisposed to view others through cultural stereotypes, thus accepting comments that could be sexist, racist, or grounded in stereotypes (Marcia, 2002).

Moratorium. Students in the moratorium status are presently experiencing crisis but are struggling to make commitments (Marcia, 1966). The college environment itself could be seen as an “institutionalized psychosocial moratorium” because it is a definable environment where identity formation is expected to occur. For example, college students in the moratorium status are more likely to change college majors (Marcia, 1993). Among adults, this status is seen as transitional and leading to achievement (Marcia, 2002).

Identity achievement. Individuals in the identity achievement status experienced crisis and, after considering several choices, made a commitment based on their individual internal values. Beliefs were evaluated and resolved, thus allowing the individual to act on his or her commitments (Marcia, 1966). These commitments tend to focus on occupation and ideology, making the individual more resistant to external manipulation (Marcia & Friedman, 1970). Identity achievement in late adolescence promotes adults who go on “to become intimate in young adulthood, generative at middle age, and integrated in old age” (Marcia, 2002, p. 12).

The earlier theories by Erickson and Marcia provided three influences on new perspectives in current identity theories: the role of late adolescence, the influence of historical and cultural aspects, and the processes occurring beyond the adolescent (college) years.

In the first influence, the role of the late adolescent years in developing identity is considered critically important for the resolution of the conflict between identity and identity diffusion (Erickson, 1959/1980). This has become the central focus for psychosocial theorists focused on college students (Chickering, 1969; Chickering & Reisser, 1993). The age of identity resolution is generally considered to range from 18 to 22, making college students desirable participants in research studies around identity (Marcia, 1993). Some of this research indicates that the college environment itself can be an influence on identity development. While Kroger (2000) found age-related declines in the importance placed on the other, those who achieved higher levels of education were more likely to actively explore ideological and lifestyle issues and reflect on their future. In studies considering college students it is estimated that approximately 50% of college students “change their identity status from the freshman to the senior year, the general direction being toward the higher identity statuses” (Marcia, 1993, p. 34). This is important to note because, like cognitive development, not all students experience changes in their identity status.

The second influence of historical and cultural aspects on the development of identity was acknowledged in the early work on ego identity by Erikson (1959/1980), who defined ego identity as developing from “a gradual integration of all identifications, but here, if anywhere, the whole has a different quality than sum of its parts” (p. 95). In describing a Jewish person, Erikson wrote that the person’s identity was linked “with the unique values, fostered by a unique history, of his people” (p. 109). At the current time in the United States, the unique history and values that influence identity development are formed mainly by the dominant group (usually defined in the United States as White and middle class) (Torres, Howard-Hamilton, & Cooper, 2003). Tatum (1997) explained, “The dominant group holds the power and the authority in society relative to the subordinates and determines how that power and authority may be acceptably used” (p. 23). Because historically “subordinate” groups have been seen as inferior to the dominant group, oppression of the subordinate group has been acceptable. For this reason, even today when subordinate, or minority, groups attempt to create their own sense of self, their lack of control over negative stereotypes and societal views of their reference groups makes this process more difficult than for members of the dominant group. These socially constructed influences continue to influence how experiences are interpreted and perceived and, therefore, have far-reaching consequences for individuals from the subordinate groups. As a result, for those in the minority (subordinate groups), oppression influences how they approach organizing their experiences, making this a more complex developmental task (Abes & Kasch, 2007; Jones, 2009; Torres et al., 2003). This influence can also be found among the theories focused on majority White individuals, for whom the societal norms around privilege influence how identity is formed (Helms, 1994).

The final influence extends the understanding of processes beyond the adolescent years by explaining the process of revisiting the cyclical nature of identity statuses and illustrating that identity is not linear or completed at a definite point (Baxter Magolda, 2009). As the average age of college students continues to rise,

it is important to consider how the years beyond adolescence can influence identity. Marcia (2002) recognized that in adults there can be an “identity reconstruction” process (p. 15). This process typically entails an experience that produces disequilibrium and prompts the individual to enter a reformation period that then results in reconstruction of one’s identity. This reconstructive, cyclical process does not create a disintegration of identity; rather, it is a revisiting of previous developmental tasks, as adults experience changes in their lives.

The remainder of this section concentrates on the varying developmental paths that can occur within the identity development patterns because of social status differences such as race, ethnicity, and sexual orientation. These socially created aspects of identity provide reference group variables but not personality variables (Cross & Vandiver, 2001). For those with nonmajority racial or ethnic identities, the meaning-making process “involves an individual’s continual, and at times, highly conflictual assessment of the people who comprise his or her externally ascribed reference group as well as the people who comprise other racial groups” (Thompson & Carter, 1997, p. 15).

Rather than going through each of the racial/ethnic identity theories, this discussion focuses on the commonalities found between these explanations of the experiences of nonmajority individuals. The first commonality is around the issue of salience: how salient one’s race or ethnicity is to the individual (Cross & Vandiver, 2001). Among multiracial students this salience would be described as multiple races integrated into their understanding of self (Renn, 2008; Root, 2003). As the salience of race/ethnicity increases, the individual must make meaning of not being part of the majority White culture prevalent in the United States. This process requires a series of developmental task that move from having an externally defined sense of self that is based on the White majority, to understanding the historical and societal issues that influence the interpretation of race/ethnicity and multiracial people in the US society (Cross & Vandiver, 2001; Helms, 1994; Kim, 2001; Torres & Hernandez, 2007). Many novices using developmental theories may view the statuses or stages as fixed and constant, yet most theorists acknowledge that a developmental task, once manifested, is always present and will influence behaviors and reactions in the future (Helms, 1994). As in Perry’s scheme of dimensions in cognitive development, individuals may exhibit several statuses at the same time, although one status would be considered dominant (Thompson & Carter, 1997).

Within these theories some type of encounter occurs that prompts the person to question previous ways of being (Cross & Vandiver, 2001). Torres and Hernandez (2007) found that for Latino students the recognition of racism was a critical encounter assisting the students in making meaning of their identity as Latinos. This encounter may represent the point at which students of color enter the crossroads and are forced to reconsider previous interpretations of race and ethnicity. The integration of cultural choices represents becoming author of one’s life and is likely to be represented in the racial/ethnic theories as internalized or integrated sense of self, in which race or ethnicity is seen as a positive aspect of one’s life.

Among White students the process is different because rather than dealing with the oppression of being members of a subgroup they must make meaning of being members of the group in power that determines society's norms. This developmental task is to recognize and acknowledge one's privilege as a majority person (Helms, 1994). The crossroads for a majority person, thus, would entail abandoning racism and eventually reconceptualizing one's self as a person able to help other Whites understand how societal norms perpetuate racism in society (Helms, 1994).

A different social identity is that of sexual identity, a broad construction that includes sexual orientation and that reveals an individual's sexual values, needs, preferred modes of sexual expression, and preference of sexual partners (Worthington, 2004). Understanding this distinction helps practitioners understand that while sexual behavior or identity might change, sexual attraction (sexual orientation) is relatively unchangeable (Worthington, 2004). This is consistent with the American Psychological Association's view that sexual orientation is not a choice made by the individual (Worthington, Savoy, Dillon, & Vernaglia, 2002). Among theories that consider sexual identity, an unexplored identity represents a person who has not questioned societal norms and gender roles. The act of exploring sexual identity may lead individuals into questioning the majority heterosexual norms, which may lead those wishing to question a heterosexual lifestyle into an awareness phase (Fassinger & Miller, 1996). The concept of awareness becomes critical in the case of D'Augelli's (1994) theory because his theory begins once the person has made the decision to exist a heterosexual lifestyle and acknowledges his/her homosexuality. In addition, D'Augelli's also incorporates bisexual orientation in his lifespan model of development.

In all of these social identity theories, there is a point where the individual must enter the crossroads and determine if their sense of self is based on externally defined ways of knowing or on his/her own values and beliefs about self. The integration of new forms of identity is achieved in the becoming author of one's life and internal foundations. This developmental achievement requires a great deal of self-knowledge and reflection, and this could be why Marcia (1993) found that only approximately 50% of college students changed identity statuses during college.

Abes, Jones, and McEwen (2007) conceptualized the understanding of development as requiring the integration of more complex ways of knowing by inserting into their model a meaning-making filter that represents the external influences on college students' perceptions of their own multiple identities. This meaning-making filter would determine how the contextual (external) influences that students experience are taken in as they navigate multiple identities. As students enter the crossroads and beyond, and develop more complex ways of understanding self, their filter allows less contextual influence and, therefore, more of their inner voice is used to navigate their self-perceptions. The use of the Abes–Jones–McEwen model can assist in understanding the concepts of multiple identities markers, such as race and gender, while also highlighting how the development of cognitive complexity influences students' identity formation.

The Interpersonal Dimension

The interpersonal dimension is not as well researched as the previous two dimensions, yet the fact that the identity dimension and the cognitive dimension both deal with other people points to the importance of including the consideration of the individual's relationships with others in understanding student development. Relationships change as individuals "shift from external to internal self-definitions" (Baxter Magolda, 2001, p. 10). Standing up for one's own needs without being self-centered or selfish requires an understanding of self that is inclusive of other partnerships and relationships. Understanding a complex view of interpersonal relationships requires a nuanced view of the role of relationships in one's life (King, 2010). "It is through cues from the interpersonal dimension that participants are compelled to question who they are and how they know" (Pizzolato, 2010, p. 200).

The interpersonal dimension requires that individuals know how they want to interact with others (Baxter Magolda, 2009). Chickering and Reisser (1993) saw the development of mature interpersonal relationships as one of the vectors that needed to be mastered before establishing a clear sense of identity. As part of this vector they posit two critical components: "(1) tolerance and appreciation of differences and (2) capacity for intimacy" (p. 146)—the first enabling the individual to accept the other person for whom they are without judgment and the second enabling the individual to shift in relationship toward interdependence between equals. These expectations about others necessitate that a person transcend the crossroads and begin authoring one's own life. It is only after leaving external definitions of who they should be and with whom they should create friendships that a person can have the capacity and self-awareness to have this level of mature interpersonal relationships.

Baxter Magolda (2001) described the processes used by her participants as renegotiating existing relationships in ways that respect one's internal voice. As the other dimensions progress, relationships are sought out that maintain one's own sense of self and allow others to maintain their own sense of self (Baxter Magolda, 2001). For the students in Torres' study, it was important to have relationships that accepted an informed Latino identity and allowed for the expression of cultural values selected by the person (Torres & Hernandez, 2007).

Pizzolato (2010) calls for significant more attention be paid to the interpersonal dimension and how the culture influences individual's relationships. She posits that by understanding context researchers would be better able to understand group differences in the self-authoring process. Much needs to be explored in the interpersonal dimension. Although some research has indicated that peer influence can affect an individual's college choice (Hossler, Schmit, & Vesper, 1999) as well as his or her sociopolitical changes (Dey, 1997; Pasarella & Terenzini, 2005), little is known about how students go about creating their peer and intimate relationships.

Using Developmental Theories to Explain Student Outcomes

Research on student gains tends to consider the effect a particular practice or policy has on some form of student learning. Yet, “students anticipate gaining more benefits than knowledge alone from their postsecondary education; therefore, any discussion or analysis of ‘student gains’ should recognize these various dimensions and not simply focus on the gains in learning” (Toutkoushian & Smart, 2001, p. 55). Few studies have focused on these various dimensions of student development and growth.

To illustrate these “various dimensions,” this section uses developmental theories to help explain findings when the outcomes are defined as student learning. Examples abound in the research literature on student learning, but the two studies discussed in this section provide clear illustrations. The first study used the National Survey of Student Engagement (NSSE) and the second one used the College Student Experiences Questionnaire (CSEQ) to identify practices that should have an effect on some form of student learning or educational outcome.

In a study of the effect of student engagement on learning, Carini, Kuh, & Klein (2006) found that the lowest ability students gained more from engagement and showed a positive modest relationship between engagement and academic performance. The authors admit that “a large portion—and in some cases a majority—of the variance in key outcomes remains to be explained by yet undiscovered factors” (p. 23). Although this study had several limitations that should be considered, one of the findings reported was as follows:

[S]eniors appeared to benefit less than first-year students from working harder, coming to class more prepared, preparing drafts of papers, writing more small papers, and having more high quality relationships with collegiate employees. In contrast, seniors benefited more from working with other students on projects during class, integrating ideas from different courses, receiving high quality academic advising, and being at institutions that emphasize contact among students from different backgrounds, as well as attendance of campus events and activities. (p. 15)

These findings may possibly illustrate the expected developmental differences between first-year students and seniors. First-year students are more likely to have external definitions and the need to have absolute knowledge provided to them. For this reason items that ask about preparation and multiple drafts of papers illustrate appropriate developmental tasks for this group and should be seen as likely to be higher for first-year students. In addition, first-year students had a significant negative correlation (-0.14) between the engagement item about conversations with students who are different and the specified learning outcomes (a survey of cognitive and performance tests). In contrast seniors had a positive, but not significant correlation. This finding could indicate the cognitive task of being comfortable listening and accepting multiple perspectives. Developmentally, students would need at least to enter the crossroads to feel comfortable with differences between self and others. Finally, the positive outcomes for the seniors may represent a greater

capacity for complex learning and appreciation of differences—characteristics of someone who has, at least, entered the crossroads and recognized previous ways of knowing were not always absolutely correct. Though this study did not use developmental measures, the interpretations of results may be viewed through a developmental lens.

The comparing of outcomes between first-year students and seniors should be considered within the context of the developmental differences involved with these two populations. Using developmental theories in the interpretation of findings could help identify that some practices may be more appropriate for first-year students and other practices require greater complexity in cognitive development and should be oriented toward seniors. This type interpretation could provide more in-depth information to institutions to create practices that are developmentally appropriate and help move students toward greater developmental complexity.

A second study that can be used as an example is focused on faculty–student interactions, a practice believed to promote greater development and satisfaction among college students (Astin, 1993). In this study Kuh and Hu (2001) used the College Student Experiences Questionnaire (CSEQ) to consider the nature, contribution, and forms of contact found at institutions around faculty–student interaction. In this study the following discussion was reported about a finding: “although student–faculty interaction was positively related to both EFFORTSUM [effort student devoted to other college activities] and gains, some students who interacted less frequently with faculty apparently also devoted considerable effort to other educational activities and therefore realized above average gains” (p. 327). Although the researchers found no significant difference between the genders in this sample, a more detailed analysis might have done by considering gender differences by class level and therefore allowed for the consideration of gender-related patterns present in ways of knowing (Baxter Magolda, 1992). Women who practice absolute knowing may have a preference for the receiving pattern and therefore not seek out interaction with faculty—instead, their role as learners would be to listen and record information (Baxter Magolda, 1992).

This study also reported that student–faculty interaction and out-of-class contact increased as students progressed in their class level. This is consistent with moving from externally defined ways of knowing to considering oneself a contributor of knowledge and seeking out interactions to participate in understanding knowledge. In this case the students’ development was reflected in the findings and perhaps could help tell the story about how faculty–student interaction can influence development.

Using a developmental lens may assist in considering a more clear sense of when faculty–student interaction does promote development and satisfaction. While comparisons across class levels do illustrate changes, they would not necessarily highlight why those differences exist. Using student development theories as a framework for considering the findings would assist in refining and identifying practices that enhance the development of students through student–faculty interaction. This more nuanced interpretation may help administrators and faculty understand how to use the findings from these studies in developmentally appropriate ways. To

apply a mechanism that can promote development in the same manner across the developmental status may not yield the desired effect of furthering development. Instead understanding how development along the dimensions influences students' perceptions can help identifying what practices are developmentally appropriate.

Recommendations for Research on Students in Higher Education

In looking at the future of research on student outcomes, it is necessary to admit the major limitation of developmental theories: Development occurs slowly and differently for each individual. This limitation makes it more difficult to measure and use development as an outcome. Attempts to measure student development have been done in the past, yet these attempts have not been updated with sufficient regularity to use frequently in research. Because of the social construction of these constructs (cognitive, identity, and interpersonal relationships) societal and environmental changes would influence how development would be experienced. One example of this measurement is the Student Development Task and Lifestyle Assessment (Winston, Miller, & Cooper, 1999). This survey instrument attempted to measure developmental outcomes associated with autonomy, establishing a sense of identity that is separate from others, and increasing patterns of mature interpersonal behaviors, career orientations, and lifestyles. The survey had previous versions completed in the 1980s, but the last revision was conducted in the 1990s. Given the changes in ways students communicate, interact with the college environment, and socialize, a survey that considered the societal rules some 15 years ago and did not include the use of social networking sites would now be out of date.

Although the limitations for measuring development are major, expectations around accountability make this a worthwhile endeavor to consider. All of the measures currently available to measure the impact of college student outcomes have limitations. Therefore, creating a new view with a more developmental focus may be needed to meet the research needs in the future.

A second issue to consider in future studies about students is whether institutions truly influence student development or if institutions create environments where student growth and engagement can assist in helping students develop. Although some may see these concepts as interchangeable, there are clear differences in believing that the act of being a student promotes change and understanding that only those students who participate in certain activities, such as high-impact practices, are likely to experience actual growth or changes in development. This distinction may be the reason why both Baxter Magolda (2001) and Torres and Hernandez (2007) found that after 4 years of college, most students had only entered the crossroads of cognitive development. Or why Marcia (1993) found that only 50% of college students changed identity statuses during college. These findings indicate that only some students develop—or change—during college. As an example of this issue, Zhao and Kuh (2004) noted that learning communities

influence “student development in complex ways” (p. 130). This complexity includes the possibility that there is no direct affect between learning communities and “student gains; rather, learning communities provide a fertile environment for student growth through engagement with other influential agents of socialization, such as peers and faculty members” (Zhao & Kuh, 2004, p. 130).

Understanding the differences between providing a fertile ground and actually influencing student development can assist researchers in creating more appropriate research designs and measurements. For example, assuming that one semester, or 1 year, in a learning community could produce gains in developmentally appropriate educational outcomes may be unrealistic, given what is known about student development and the evidence in the literature about how students develop. Perhaps research on student outcomes could benefit from being more precise about the practices that students engage in, rather than assuming that the act of being in college will itself produce development—or change. Kuh’s (2008) work around high-impact practices like undergraduate research, learning communities, service learning, or study abroad, assist with this understanding that it may be the activities that students participate in rather than the act of being in college. This concept is certainly consistent with the ideals behind the student involvement concepts introduced by Astin (1999) many years ago. When considering the effect of college on students, researchers may be better served by considering situations in which students are required to interact with faculty and peers on substantive matters over a period of time and to consider if these contextual influences actually influence changes in the developmental processes of students. Without distinguishing the influences of these contextual activities, it is difficult to truly understand why some students develop during college and others have smaller or no gains in their developmental statuses. This type of focus is ripe for mixed-method studies that consider the qualities involved in the practices that are known to promote development along with the longitudinal effects on student outcomes. Together these views of how college students may change can be more useful for faculty and administrators wanting to create interventions that will make a difference.

The final issue that should be considered adds another layer of complexity, yet it is likely to yield greater understanding of how students’ lives are carried out in the higher education context. This issue concerns both the research on student outcomes and future research on students’ developmental tasks. Using the intersectionality framework allows for consideration of multiple identities as well as acknowledging the power and inequality inherent in the larger social structures (Torres et al., 2009). Research using this viewpoint allows for descriptions of a more clear sense of the diverse lives that higher education students have today. Because so many of the foundational theories were based on observations of traditional college students, often at elite residential institutions, it is necessary to ask the question if the lives of these students represent the lived experience of the majority of today’s college students attending the diverse higher education institutions in the United States.

Intersectionality is interdisciplinary, combining critical legal studies and feminist literature, largely from women of color. This approach “draws from a web of

socially defined statuses, some of which may be more salient than others in specific situations or at specific historical moments” (Dill & Zambrana, 2009, p. 4). By considering this framework, researchers can bring together the dynamics of race, gender, and class when considering the development of students. This would yield practices that have the underrepresented student at the center of the process rather than a by-product that needs an adjustment in programs because the program was created around the needs of majority students. Placing the characteristics that represent those students who could benefit the most from intentional practices is likely to yield greater student gains than is hoping these students somehow figure out the maze of learning assistance programs and land in a place that can benefit them.

This framework has been used in the higher education literature to consider a model of multiple identities that constructs an understanding of identity encompassing multiple aspects like culture, gender, religion, social class, sexual orientation, and race (Abes et al., 2007). Other research projects have used this framework to look creatively at other higher education issues and to use innovative methodologies like autoethnography (Jones, 2009).

In reality higher education research aggregates the complex understanding of what influences individual students into narrowly defined proxies. One example of this narrowly defined form of simplification is to use a dichotomous variable to represent the influence of race and/or ethnicity. Given the information presented in this chapter about the complexity of understanding one’s choices about their culture of origin and the process of understanding the influence of racisms within one’s life, a dichotomous variable of White–non-White cannot represent the developmental processes that come with race and ethnicity. In addition, if a researcher considered the concept of intersectionality within students’ lives then the understanding of gender could not be separated from race or social class. Instead the interconnections between these concepts would make any analysis that attempted to separate these variables as inappropriate in understanding the student experience.

While these challenges may read as an attack on quantitative measures, that is not the intent. Rather the purpose of pointing out these issues is to challenge researchers to more carefully consider what is identified as representing the students’ experience or ways of knowing. The challenge for researchers in higher education is to not simplify, rather it is to consider the complexity of students’ development and experiences as much as possible. Newer quantitative measures allow for some of this complexity to be considered; now the measurement that purports to represent the student experience, or development, must also include this complexity. Without these more complex views of students’ lives higher education will continue to appear to make moderate influences on the lives of college students.

Each of the three issues offered as a way to contribute to future research—measurement of development, environment for development, and using intersectionality—brings more distinctions when viewing of the lives of students in higher education. Through such a nuanced view, researchers can begin to truly understand how college affects all students, rather than just a few.

Conclusion

Research over the past 60-plus years illustrates, in general, that the developmental gains students make in college are moderate. At this point, institutions appear to believe that the status quo creates sufficient disequilibrium to prompt change and systemic review of mechanisms that could provide challenge and support is seldom undertaken. Several researchers have made the case that if higher education is serious about promoting the development of students, then institutions need to rethink how they teach and challenge their students (Baxter Magolda & King, 2004). It is through the creation of more mechanisms prompting development that greater gains in measuring development could be achieved.

An incoming student that lands in large lecture classes with little interaction with the faculty and no assigned advisor is not likely to seek out interactions with college personnel that could actually assist in her/his development. Instead the institutions need to determine if these interactions are valued and therefore offered as part of the students' first-year experience. Without this level of intentional intervention, the student will continue with his/her external formulas and not feel challenged, or supported, to develop the cognitive, intrapersonal, or interpersonal dimensions of their lives. Instead they will go through the college experience behaving in the same manner she/he did prior to being in college. The realization of this reality is the only way that colleges can begin to have effect on students. Acting as if the act of enrolling in college alone will produce changes in students' development is not realistic or supported by the literature.

Kuh (2008) explains that high-impact practices—such as undergraduate research, learning communities, service learning, writing-intensive courses, or study abroad—place students in situations requiring them to interact with faculty and peers on substantive matters over a period of time, promoting the level of desired outcomes “when done well” (p. 14). Doing these practices well will make the difference between a student developing over time and a student with little gains in development. The level of interaction and feedback about performance is more likely to occur in these high-impact practices and prompts students to try out new ways of thinking. The characteristics describing these practices match the types of circumstances likely to produce challenge (disequilibrium) and support, thus requiring the student to negotiate different viewpoints and to make meaning of these differences. Through these types of interactions, development is much more likely to occur, yet only a limited number of institutions provide these types of activities to every student.

For institutions to truly see significant developmental changes in their students, every aspect of the campus experience would need to be evaluated to see how students are challenged and supported to consider more complex and internally defined ways of knowing and being. Practices should be evaluated to determine if they are developmentally appropriate and produce the types of outcomes the institutions desires. Without that level of evaluation, institutions can expect to continue seeing only moderate to small gains in developmental outcomes.

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