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Abstract

This article will provide an overview of postsecondary education (PSE) options for students with Autism Spectrum Disorder (ASD) and other Intellectual Disabilities (ID). Topics include a historical and philosophical discussion outlining how students with ASD and ID can benefit from postsecondary opportunities, a description of current PSE options, and models of implementation. In conclusion, implications and recommendations for future research, training and technical assistance are provided.

Keywords

postsecondary education, transition, autism spectrum disorders, intellectual disabilities

Exiting high school and planning for next steps is an exciting yet tense time for all students and their families. It can be particularly daunting for students with autism spectrum disorders (ASD) and intellectual disabilities (ID) and their families (Glennon, 2001; Muller, 2004). The possibility of college for students with more challenging disabilities may not be seen as a viable option. However, as with students without disabilities, students with moderate to severe disabilities will benefit from a college education and the college experience. Benefits can be measured by growth in academic and personal skill building, employment, self-advocacy, and self-confidence. For students with more significant disabilities, this growth also is reflected in increased self-esteem, when they begin to see themselves as more similar to than different from their peers without disabilities. Being part of campus life, taking college classes with students without disabilities, and learning to navigate a world of high expectations leads to the development of skills needed for successful adult life. Ensuring that college is a viable choice for everyone is important, as this indicates that we believe in all students' potential for success in this arena and that we are not excluding or prejudging any one group.

An overview of postsecondary education (PSE) for students with ASD and other ID will be provided in this article. Topics that will be discussed include definitions and a statement of need, a historical and philosophical discussion outlining how students with ASD and ID can benefit from postsecondary opportunities, a description of current PSE options, and models of implementation. Additionally, promising practices that support access to and participation in PSE will be discussed. Finally, implications

and recommendations for future research, training, and technical assistance also will be provided.

Definitions

Autism is recognized to be a “complex disorder” as well as a “spectrum of disorders” that affects almost every area of an individual's functioning (Seltzer, Shattuck, Abbeduto, & Greenberg, 2004). Autism was first listed as a disability category for special education in the Individuals with Disabilities Education Act (IDEA) of 1990. The Individuals with Disabilities Education Improvement Act of 2004 includes the following definition:

- c.)(1)(i.) Autism means a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child's educational performance. Other characteristics often associated with autism are engagement in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences. (2004, pp. 108-446)

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- (ii) Autism does not apply if a child's educational performance is adversely affected primarily because the child has an emotional disturbance, as defined in paragraph (c)(4) of this section.
- (iii) A child who manifests the characteristics of autism after age three could be identified as having autism if the criteria in paragraph (c)(1)(i) of this section are satisfied. (U.S. Department of Education, 2006, p. 46756)

It is important to note that many professionals consider autism to be a "spectrum" disorder (Wing, 1997): a group of disorders with like features, which can range from mild to severe. Therefore, throughout this article, the term *autism spectrum disorders* will be used.

The term *intellectual disability* has replaced the term *mental retardation*. For example, the American Association of Mental Retardation has recently changed its name to the American Association on Intellectual and Developmental Disabilities (AAIDD) to reflect this change in terminology. The AAIDD defines intellectual disability as follows: "Intellectual disability is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills. This disability originates before the age of 18" (http://www.aamr.org/content_100.cfm?navID=21).

This term also was used in the Higher Education Opportunity Act (HEOA) of 2008, where students with ID are defined as follows:

The term "student with an intellectual disability" means a student—

- (a) with mental retardation or a cognitive impairment, characterized by significant limitations in—
 - (i) intellectual and cognitive functioning; and
 - (ii) adaptive behavior as expressed in conceptual, social, and practical adaptive skills; and
- (b) who is currently, or was formerly, eligible for a free appropriate public education under the Individuals with Disabilities Education Act (HEOA, 2008).

The HEOA definition may be open to interpretation and becomes a challenge for students who have various other disability labels such as those students who are on the autism spectrum (Grigal & Hart, 2009). For consistency this article will use the HEOA definition of students with ID.

Need for PSE Options

The number of students diagnosed with autism has been increasing over time (Seltzer et al., 2004; Volkmar, Lord,

Bailey, Schultz, & Kiln, 2004). The Centers for Disease Control and Prevention (2007) revised its estimate of the ASD prevalence upward to 1 in 150, and this ratio was even higher for boys. The prevalence has been increasing 10 to 17% annually for the past decade. As of 2007, there were 256,863 students ages 6 through 21 years nationwide identified as having autism who received special education services (U.S. Department of Education, 2006). Of those students, 15,443 were between the ages of 18 and 21 years. In recent studies, 85% of those with "full spectrum autism" were under the age of 21 years, with higher rates increasing in the younger age cohorts (Cavagnaro, 2007). Families of children with ASD, and the professionals who are working to assist them, face a number of challenges as they strive to meet the service needs of transition-aged individuals with ASD.

Despite the increased prevalence of autism, there is limited research on the transition of youth with ASD, ages 16 through 21 years, into PSE, community living, and employment (Briel & Getzel, 2009; Hendricks & Wehman, 2009; Seltzer et al., 2004). Services and supports for individuals with ASD in this age range and for adults are complicated by the lack of evidence-based interventions and services adapted for this age group, as well as by various discontinuities in service systems including education and health and the unique developmental context (Wehman, Smith, & Schall, 2009). Therefore, it is imperative that the human service field begin to develop evidence-based practices that support youth and adults with ASD in PSE and competitive employment. Researchers examining PSE for individuals with ID have found improved employment and self-determination outcomes (Grigal, 2009; Hart, Zimbrich, & Parker, 2005; Migliore, Butterworth, & Hart, 2009; Zafft, Hart, & Zimbrich, 2004). These researchers, albeit from a limited number of studies, have begun to demonstrate how students with ID can be successful in PSE. Future researchers need to identify successful interventions that examine how to ensure that students with ASD and ID are better prepared for college while still in secondary school, the types of services that need to be included in a student's transition plan, the level of supports that individuals with ASD and ID will need to be successful in PSE and competitive employment, how supports can be provided in a flexible manner to meet individuals' needs, and the types of professional development that need to occur in pre-service and in-service initiatives.

Philosophical Basis

In the past 10 years, opportunities for access to PSE for students with ASD and ID have grown through a variety of approaches and with varying degrees of inclusiveness in typical college life. Students with ASD and ID present a fundamental challenge to higher education, a proudly exclusive

environment in which only students who meet certain admission requirements are accepted and educated. When students do not meet these requirements, or are otherwise outside the “norm,” tradition and current practice suggest that these students do not belong in college. The struggle for educational equity has moved students with disabilities in K-12 education from segregated classrooms to “inclusive settings with” high academic expectations and is now challenging these assumptions about who “belongs” and can benefit from a college education.

There are several compelling arguments that support access to college for students with ASD and ID. One such argument is that access to PSE is a natural progression from the more inclusive educational opportunities that students with ASD and ID are experiencing in elementary and high school. In the K-12 system, students are attending classes with their same-age peers, participating in the general curriculum, and in many instances graduating with their classmates. Researchers support the premise that when elementary and secondary students are included in typical classrooms, with high expectations and the appropriate supports, they can be successful in those environments (Jorgenson, McSheehan, & Sonnenmeier, 2009). Participation by young adults with ASD and ID in inclusive PSE options can result in similarly positive results in academic and social success (Uditsky & Hughson, 2006).

The philosophical underpinnings of community supports for people with disabilities reside on the fact that people with disabilities benefit from the opportunity to participate in valued social roles, as these roles make it more likely that individuals will have a good quality of life and less likely that they will be marginalized by others (Uditsky & Hughson, 2006; Wolfensberger, 2000). “College student” is a valued social role that has a particularly strong resonance. Offering opportunities for students with ASD and ID to attend college, in typical ways and with their same-age peers, provides a powerfully positive social experience for those students. When college students with ASD and ID talk about their experiences in college, they often mention that being a college student gives them a sense of esteem and belonging; less of a sense of “other-ness” than they had experienced previously. For this benefit to be maximized, it is important that the PSE be structured in inclusive ways that create legitimate college student status. Pretending to be a postsecondary student simply by spending time on campus will not have the same effect as true participation in college courses and other campuswide experiences (Bowman & Weinkauff, 2004).

Another particularly compelling argument for increasing access to PSE for students with ASD and ID is the relationship between college attendance and positive employment outcomes. It long has been known that a college education offers greater employability and increased lifetime earnings, and researchers suggest that these benefits extend to

individuals with labels of ASD and ID who attend college (Gilmore, Bose, & Hart, 2002; Grigal, 2009; Migliore et al., 2009). One of the primary reasons individuals without disabilities attend PSE is to be able to get a good job and make higher wages. Quality PSE initiatives for individuals with ASD and ID must have an employment component.

Others are noting the positive impact that the presence of students with ASD and ID has on the entire college community. Faculty members at a college in New Hampshire, who have had students with ASD in their classes, discuss the positive impact that students with ASD can have on both individuals and the college community as a whole:

We have found ourselves to be more understanding and appreciative of both our differences and our similarities, we regard students with AS or autism as having a great deal to contribute both to our own learning, as well as to our college community as a whole. Spending time with and befriending these students is not just about delivering an essential clinical service, but about what kind of people we want to be and what kind of communities we want to create. (Welkowitz & Baker, 2005, p. 186)

A PSE offers opportunities and resources to students with ASD and ID that are keys to obtaining a quality life. Determining the supports, services, and structures that make those opportunities more likely to be successful are important and worthwhile endeavors. Given the growing national and international interest in creating access to and full participation of students with ASD and ID in PSE, it is now time to have a coordinated comprehensive program of model demonstrations with rigorous program evaluation to identify effective practice and quality indicators that support increased access to PSE.

National Attention

One indication of the increased interest in PSE is the attention that is being paid by mainstream media. These media outlets have begun to cover the topic of PSE for students with ASD and ID and provide a forum through which the public can review and respond to differing viewpoints. *The Boston Globe*, CNN, *Detroit Free Press*, *The New York Times*, *Chronicle of Higher Education*, and other newspapers and magazines have featured stories on the new opportunities higher education presents to people with ASD and ID (Robertson & Ne’eman, 2008). In a *U.S. News and World Report* article entitled “College Is Possible for Students With Intellectual Disabilities: New Support Programs and Federal Funds Can Help Students With Intellectual Disabilities,” Calefati (2009) related the story of one young woman’s journey in higher education and described state and federal initiatives supporting access for students. While

the tone of the article was positive, readers indicated that the topic was controversial as illustrated by comments posted online: “colleges and universities are no places for the ‘intellectually challenged.’ Taking resources that could be used for ‘regular’ students is foolish, to say the least” (RRER, 2009). “Doesn’t ‘intellectually challenged’ indicate that someone is NOT a likely college student? If you can’t make it through a class without an extraordinary effort on the part of several people, not just yourself . . . then you just do not belong in college” (EmCee, 2009). Others seem to understand the inherent social justice issues related to increasing access to a wider array of learners: “We must educate every member of our society to their fullest potential. . . . Only when we do so will we be the greatest country on earth” (Fleming-Super, 2009). “It’s time to stop focusing on all the things people ‘can’t’ do, and instead focus on tapping the sometimes-untapped potential that exists in each person” (Endless Possibilities, 2009).

Reflecting many challenges of past advocacy efforts, those seeking to promote increased access to higher education will need to be ready to face arguments and derision from those who do not believe neuro-diverse students belong in higher education (Robertson & Ne’eman, 2008). In the next section, we will discuss some of these efforts to support both advocacy and those seeking to implement inclusive college experiences for individuals with ASD and ID.

One such effort was made by the Organization for Autism Research (OAR), a national, nonprofit organization formed and led by relatives of children and adults with autism and Asperger syndrome. The OAR created a two-part DVD entitled *Understanding Asperger Syndrome: A College Professor’s Guide*. This short video focuses on educating professors, teaching assistants, and others on what it means to be a college student on the spectrum and how they might help them succeed. This video is available on OAR’s website but also is available free to the public via YouTube.

The Internet provides an array of resources such as online communities run by individuals with autism, including websites, forums, email lists, and gatherings on interactive platforms (Robertson & Ne’eman, 2008) as well as resources focusing specifically on students with intellectual and developmental disabilities (www.thinkcollege.net, www.transitiontocollege.net) and videos demonstrating both individual students’ experiences (<http://www.thoughtshesamedoor.com/>) and overviews of programs like *Inclusive Postsecondary Education: Living the Dream* (Alberta Association for Community Living, 2006) and *ThinkCollege: Inclusive Concurrent Enrollment in Massachusetts* (www.thinkcollege.net). The increasing level of interest demonstrates a need for information for students, families, and professionals. Though institutions of higher education (IHEs) have created some web-based resources, most have

been initiated and disseminated via advocacy groups, individuals, and other nonprofit or grant-funded endeavors. As access to PSE expands and the demand for services continues to increase, it is likely that the higher education community will need to become more involved in the creation and dissemination of accurate information for students with ASD and ID.

Academic Rigor and Accommodations

Overall, the goals and desired outcomes for students with ASD and ID who participate in PSE are similar to those of students without disabilities (Hart & Grigal, 2009). Individuals may initially think that students with ASD and ID are not academically capable of achieving success in traditional college courses or that they will be socially isolated and will not fit into campus life. But it is critical to remember that a successful college experience is measured in several ways—grades, yes, but also increased learning, increased independence and self-determination, and positive social experiences, among others. With guidance and practice in social pragmatics, students with ASD are successfully maneuvering the complex social landscape in college and making social connections and friendships (Abele, 2009; Attwood, 2006).

One of the more frequent arguments against providing PSE access to students with ASD and ID is that these students would require the instructor to “water down” the expectations and thus reduce the academic rigor associated with college-level classes (Grigal & Hart, 2009). However, this is not considered best practice and is not what students expect. Certainly students with ASD and ID who access college courses are entitled to seek accommodations available under Section 504 of the Rehabilitation Act and the Americans With Disabilities Act to all college students with disabilities. However, students with ASD and ID are not seeking to have course content modified by the professor or instructor. The level of academic rigor of a class should not be altered in any way to meet the needs of students with ASD and ID (Hart & Grigal, 2009). Instead, if a student requires modifications, the responsibility falls to the student and to those providing assistance to ensure the course material is accessible and the student will be able to successfully participate. This may mean that students register for a course using an “audit” option instead of taking the course for credit in order to become more familiar with the course content. It also may mean for some students that courses available via continuing education departments might be better matches for their interest, learning styles, and academic abilities. It is important that we withhold our decisions about how students will participate in courses until they start attending classes. This is a rich opportunity to teach students self-determination skills where they are

Table 1. Accommodations at Institutes of Higher Education for Students With Disabilities

Instructional Accommodations	Academic Accommodations	Test Accommodations		
		Setting Alterations	Time/Schedule Changes	Test Format Changes
Peer note taker	Academic support, counseling referral, and special advising	Separate room for test	Extended time (50%, 100%, etc.)	Reader to read directions and questions or oral test
Tape-recorded lecture		Minimal distractions	Breaks during testing	Dictate answers to scribe or tape recorder
Laptop computer	Priority registration	Priority seating	Administer test in several sessions	Allow student to mark responses on test rather than on Scantron answer sheet
Outline or notes from professor	Early registration		Specific time of day that is best for student	Increase size of answer sheet bubbles
Textbooks on tape (RFBD or other)	Course substitute for "required" course			Larger type
Spell checker and grammar checker				Use of word processor for written responses
Kurzweil Reader or e-reader				
TextHELP: Read and Write software				
Screen Reader (CCTV)				
Screen enlarger				
FM listening device				
Priority seating				
Advanced receipt of syllabus and course handouts				
Course materials available in alternative format				

Note: RFBD = Recording for the Blind and Dyslexic; CCTV = closed-circuit television.

engaged and guided as to how they wish to participate in the course once they have attended several classes.

For those who do seek supports via a Disability Services Office, the range of available services and accommodations may vary depending upon the college. Table 1 provides an overview of accommodations that are typically available. However, some students with ASD and ID will have several common challenges that are not frequently addressed by the array of accommodations and tutoring services provided through the college. These challenges may have to do with both academic and nonacademic aspects of the college experience.

One widespread challenge for both student populations, but in particular for college students with ASD, is a difficulty in managing tasks that place a high emphasis on executive functioning (Robertson & Ne'eman, 2008). Other challenges may include difficulty with nonverbal communication, socialization, and coping with the stress of overstimulating environments (Welkowitz & Baker, 2005). To address these issues, students may require adjustments to the physical environment or the use of sensory-limiting devices, such as sunglasses to reduce visual glare indoors and headphones to filter out background noises (Robertson & Ne'eman, 2008). The recent advent and widespread availability of personal

technology also provides solutions to many students with ASD and ID. Personal digital assistants, electronic organizers, and smart phones are used frequently to assist individuals with (and without) disabilities to manage their time and tasks, thereby providing excellent support for organization and navigation of college responsibilities. An added benefit to using these commercially available devices is that they do not make the student stand out or look different because the devices are valued in our current culture.

Some colleges may create support groups, offer peer-mentoring programs, or provide access to counseling services to assist students with aforementioned issues. Others provide an array of services and supports for students with specific disabilities such as the Compass Program at Fairleigh Dickinson University. The Compass Program is offered to students with Asperger syndrome who have the option of paying an additional fee to receive weekly services such as 2 hours of individualized, hands-on academic support and individual and group counseling sessions (Fairleigh Dickinson University, 2009). The need for nontraditional supports has led to the creation of other for-profit and private community organizations such as the College Living Experience and Achieving in Higher Education for Students with Autism/Developmental Disabilities, which provide fee-based services in various locations to students with ASD, ID, and other developmental disabilities.

The desired outcomes for students with ASD and ID will be varied and individualized and may or may not lead to matriculation or to the accumulation of credits. The benefits of accessing PSE for students with ASD and ID can be measured in their growth in a number of areas, including academic and personal skill building, competitive employment, independence, self-advocacy, and self-confidence. Growth also is reflected in their ability to see the potential for lifelong learning opportunities in and around their communities. Being part of campus life, taking classes (whether auditing or for credit), and learning to navigate a world of high expectations leads to the development of skills needed for successful adult life.

Current Postsecondary Options

When discussing PSE for students with ASD and ID, we are treading relatively uncharted waters. Historically, students with ASD and ID may be considered more likely to participate in sheltered work or other supported employment activities after high school (Hendricks & Wehman, 2009). Colleges and universities across the country are just beginning to face the issues of educating students with ASD (Prince-Hughes, 2003). Students with ASD and ID access PSE via a variety of pathways. Students who are matriculating and pursuing a degree or certificate program

take a traditional path: completing entrance examinations, applications, and other entrance protocols and meeting all course and program of study requirements, with the use, as needed, of accommodations such as note takers, interpreters, tutoring, extended time on tests, counseling, and/or use of assistive technology. For some students with ASD and ID, this traditional path may seem very difficult or even impossible; however, there are other ways to participate in and benefit from PSE.

Students with ASD and ID may choose a nontraditional path through PSE. Nontraditional paths, as depicted in Figure 1, are for students who are not matriculating and pursuing a degree or certificate program. In these instances, there are a variety of options that students can consider to access PSE classes and college campuses. Students may audit courses, take credit and noncredit courses, take continuing education classes, enter via "special student" status (not related to special education), or participate in a totally separate curriculum designed for students with disabilities.

The alternative paths students with ASD and ID may take to access college have been categorized into three broad types: dual or concurrent enrollment for high school students, college-initiated programs and services designed specifically for adults with ASD and ID, and individual- or family-initiated supports (Hart & Grigal, 2009; Hart, Grigal, Sax, Martinez, & Will, 2006). These paths, briefly described below, are differentiated primarily by the entity or person initiating the students' access to college (see Hart & Grigal, 2009, for an extended discussion of these paths).

Dual or concurrent enrollment option. The dual or concurrent enrollment option is often initiated by a school system as part of IDEA-funded special education transition services to support students with ASD and ID, ages 18 through 21 years, to access college in their final years of transitional activities. Some states, such as Connecticut, Massachusetts, and Maryland, have many school systems that offer dual or concurrent enrollment options, whereas other states may only have one such program or none at all. Though provided on a college campus, not all dual-concurrent enrollment initiatives support full or even partial access to college courses for students with ASD and ID; they may be limited to continuing education courses, noncredit courses, or developmental or remedial courses designed specifically for students with ID. Some dual-concurrent students want to continue their education within the college or in another venue, such as another community or technical college or via adult community-education courses, after they leave high school and will need support to ensure that they can access adult learning opportunities after they stop receiving services via the public school (Hart & Grigal, 2009).

College-initiated programs. IHEs, sometimes in conjunction with adult service agencies or disability organizations, create programs aimed at supporting adult students with

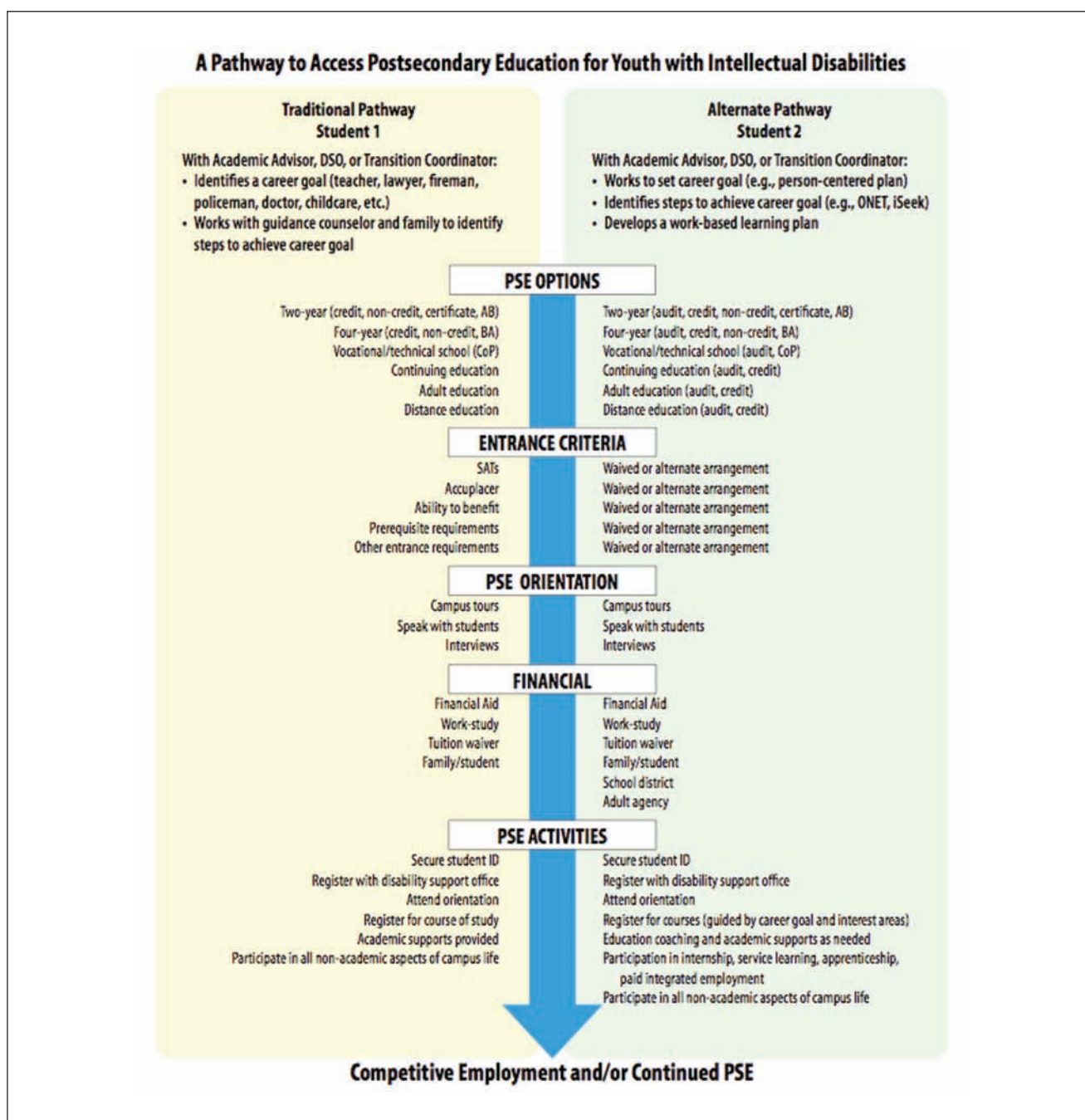


Figure 1. Pathways to access postsecondary education

ASD and ID on college campuses. These programs offer the same range and diversity of services as the dual-concurrent enrollment options, but the local education system no longer provides student supports or services. These initiatives are usually tuition based, and students apply for admission but not always through the traditional admissions process used by students without disabilities. Some of these programs and the support for students are initiated through federal and

state agencies; for example, if admission is related to a career goal, the student may be eligible for support from the state vocational-rehabilitation agency. College initiatives for adults with ASD or ID typically serve 18- to 24-year-old individuals over the course of 2 to 4 years, and their availability and structure varies greatly.

Individual- or family-initiated supports. In the final nontraditional path, students and their families, without support

from an outside agency or school, approach an IHE to seek admission. Most of these efforts go unreported or undocumented because little research has been conducted that would document these individual efforts. Families and students create access to PSE in a variety of ways. Some may go through the standard admission process, while others approach an individual instructor to gain permission or find a champion on campus to broker access. Still others work with college disability services to identify courses of student interest and match the student with an instructor versed in alternative learning styles. In many cases, students may utilize the supports available to them as adults with disabilities, such as Vocational Rehabilitation (VR), adult service developmental services agencies, and so on. Collaborative use of these supports has proven successful for some students with ASD and ID (Weir, 2004).

Examples of Implementation

In summary, there are a number of “paths” or ways that individuals with ASD and ID experience PSE. Some may participate in dual-concurrent enrollment options started by school districts, some may participate in PSE initiatives started by colleges and/or adult agencies, and others may participate in PSE experiences initiated by individual students and their families. There are at least 250 programs nationwide that represent examples of each of these paths (Hart & Grigal, 2009). We have included four snapshots that describe existing college experiences and the different paths for students with ASD and ID (see the appendix). Snapshots Number 1 and Number 2 provide examples of two dual-enrollment programs. Snapshot Number 3 provides an example of a college-initiated program. Finally, Snapshot Number 4 provides a brief description of the college experiences that were initiated by a student and her mother.

Promising Practices

As previously noted, current research into PSE for students with ASD and ID is limited. However, researchers have pointed to some practices that are effective in supporting students with ASD and ID to have successful, inclusive college experiences that lead to competitive employment and an enhanced quality of life.

Instruction in natural environments. As has been the goal in K-12 special education under IDEA, inclusive practices are the ideal in PSE as well (Hart & Grigal, 2009). Quality, effective postsecondary experiences offer all learning opportunities in natural settings using naturally occurring supports, augmenting those natural supports only when necessary. When the principles of inclusive education are applied in PSE, students are oriented to the college campus

by utilizing the existing classes and activities for all college freshmen. Students learn independent living skills such as financial literacy, travel training, and so forth by being included in college courses offered by the college to all students, and not classes designed exclusively for students with ASD and ID. Some postsecondary programs try to provide inclusive options for students with ASD and ID by developing specially designed courses and inviting or allowing students without disabilities to participate. This strategy does not really represent an inclusive option as frequently there is an overrepresentation of students with disabilities. Just as access to the general curriculum is the goal in primary and secondary education and in adult services, it is the standard for college access as well. Students with ASD may need to audit classes, choose courses that offer more hands-on learning, have instructors who work well with their learning style, or receive additional educational accommodations and supports. However, participation in typical environments with nondisabled peers is the goal.

Person-centered planning (PCP). There are numerous types of PCP (e.g., PATH [Planning Alternative Tomorrows with Hope]; Whole Life Planning, MAPs [Making Action Plans], Personal Futures), but all have some common elements including the following: The focus is on the student's strengths and abilities, the focal person directs the process, and the preferences and desires of the individual are of utmost importance (O'Brien & Lovett, 1992). Due to their focus on the strengths and capacities of people with disabilities, PCP approaches help set the stage for high expectations and positive outcomes. By engaging in a PCP process, the person with a disability and his/her supporters can develop a plan for the future that is geared toward the desires of the person, highlights and takes advantage of the person's gifts, and articulates the supports that will be needed to meet the goals the person establishes for himself/herself. When planning is person centered, rather than systems centered, it is more likely that the creative and collaborative use of resources across systems takes place (O'Brien & Lovett, 1992). In this way, PCP leads to blending and braiding of resources available from a variety of systems, as well as personal social networks.

Local, regional, and/or state-level cross-agency coordinating teams. These teams are useful for dual-enrollment or adult-generated initiatives (Hart, Zimbrich, & Ghiloni, 2001; Stodden, Brown, Galloway, Mrazek, & Noy, 2004). They exist on all levels and help guide initiatives on a statewide, regional, and/or local level. They lend themselves to sustainability of the PSE initiative by engaging key stakeholders. A cross-agency team can assist in ensuring that the resources that are available to support PSE are utilized effectively and collaboratively. Teams often are composed of, but not limited to, representatives from the

local or state education agency (if dual enrollment), VR, Developmental Disabilities agency, Developmental Disabilities Council, Workforce Development, Disability Program Navigators, IHEs, University Centers of Excellence and Disability, consumers, Parent Training and Information Center, Medicaid Waiver initiatives, Social Security Administration, advocacy organizations, business networks, and National Service representatives (e.g., Americorp, Learn and Serve).

Members may not have to attend every meeting except initially to share information about which resources and services their organizations provide. Meeting attendance can then be on an as-needed basis. Usually these teams develop a strategic action plan for how they are going to develop PSE and competitive employment as an option for individuals with ASD and ID. The strategic action plan details the major measurable goals, activities to accomplish the goal, milestones, responsible parties, and timelines for accomplishment of activities.

Members from VR and local school districts can combine resources in creative ways when they talk together about mutual goals for students. Families and students are key members of the team, bringing advocacy and a true sense of purpose. They also may serve as key resources, such as assisting with coursework and supporting self-advocacy. They also bring their circle of friends and associates—connections that may help with job opportunities and natural supports. Adult developmental service agencies may be able to provide coaching or mentoring support on the college campus. Community Rideshare programs may assist with transportation needs. Knowing the resources and being creative about their uses can go a long way to supporting college experiences.

Universal design. Universal design in higher education helps meet the challenge of accommodating a diverse student body, including students with ASD and ID, by utilizing flexible instructional materials, techniques, technology, and strategies that empower educators to meet these varied needs. A universally designed course is planned from the outset to meet the needs of the greatest number of users, avoiding costly, time-consuming, and after-the-fact changes to curriculum (Behling & Hart, 2008; Center for Applied Special Technology, 2008). Colleges and universities are increasingly looking at creating wider and better access to course content through the use of universal design strategies (Behling & Hart, 2008; Burgstahler, 2009). This approach to course design has been shown to make college classrooms more accessible to more learners, including those with ASD and ID (Darr & Jones, 2008; Hart & Grigal, 2009).

Mentoring. For many students with ASD and ID, negotiating the social environments of a college campus may be the most challenging aspect of college attendance. Peer

mentors can be extremely helpful in this regard, as they can model appropriate social behavior, as well as increase the social circles of students with ASD by introducing them to their friends. It can be very helpful for students with ASD to know that they have mentors with whom they can discuss challenging social situations. In addition, mentors can help with academic support by serving as tutors. It is important to ensure that all mentors receive training before working in this capacity (Jekielek, Moore, Hair, & Scarupa, 2002; National Mentoring Center, 2007).

Educational coaching. An educational coach, much like an employment coach, is a person who works to “even the playing field” for students with ASD and ID in PSE (Attwood, 2006; Hart et al., 2001). A coach is someone who knows the student’s strengths and challenges and uses that information to provide individualized support in an academic environment. He/she may accompany the student to class to provide cues about expected behavior as well as interpret instructions and materials in a way that the student can understand. Furthermore, the coach may teach the student to communicate his/her own needs to college personnel (e.g., instructors, tutors, peers, disabilities services office, student advisor). Coaching is being seen as a viable approach for students who need additional supports to be successful in college and to navigate the vast array of campuswide activities. However, educational coaches are not typically provided by IHEs and are an example of a support that may need to be obtained via an external source such as from an adult provider organization or a local school system if it is a dual-enrollment initiative.

Engagement in competitive employment. For many college attendees, the ultimate goal of PSE is improved employment opportunities. Many PSE initiatives for students with ASD and ID wisely include a strong employment component (Briel & Getzel, 2009; Grigal, 2009; Neubert, Moon, & Grigal, 2002), thereby supporting students to participate in career-related courses in order to gain critical work experiences, and ultimately, to secure competitive employment. Although outcomes such as improved self-esteem, valued social roles, increased community participation and involvement, and participation in inclusive environments are all powerful reasons to support increased access to PSE for students with ASD and ID, increased employment outcomes may be the most compelling. Early data support a positive relationship between any level of college participation and positive employment outcomes for students with ASD and ID (Grigal, 2009; Migliore et al., 2009). These positive employment outcomes, so critical to the quality of a person’s life, must be available to all persons (Wehman, Inge, Revell, & Brooke, 2007).

Social pragmatics and communication skills. The college environment provides an age-appropriate place to practice the social skills necessary for adult life and work environments. Daily, college students informally observe and make

ongoing judgments about their personal effectiveness in their environment. Students with ASD and ID can learn to strategize in similar ways and build social competence; however, they may need the help of a coach to process such information. For example, in a college setting, a student can learn that asking personal questions in a class is unacceptable and will have an incentive to learn to meet the college's social expectations. With practice, students can build their social competence and receive social acceptance from others (e.g., peers, instructors, coworkers, supervisors; Abele, 2009; Jekel & Loo, 2001).

Self-determination/self-advocacy. As students move from high school into adult life, the ability to speak for themselves becomes a critical asset (Getzel & Thoma, 2008; Getzel & Wehman, 2005; Thoma & Wehmeyer 2005; Wehmeyer & Field, 2007). In college, parents are no longer the primary advocates. Attendance at college offers a tremendous natural opportunity to practice and refine self-determination and self-advocacy skills. PSE initiatives should work to maximize all the opportunities that the college experience offers to develop advocacy and self-determination skills in students. One key to improving students' self-determination skills is to have them actively participate in or lead their Individual Education Plan/Individual Transition Plan meetings while still in high school. Once in college, students need to be supported to speak directly to their college professors to explain learning needs, advocate with disability support offices for needed accommodations, and speak to peers about their disability and how it may affect them. Offering college students with ASD and ID a full range of course choices and social events to engage in also provides them with the real opportunity to be in charge of their own lives, leading to an increased sense of self-determination. If choices are limited, or the PSE initiative offers only prescribed or limited options for the students who are participating, then the opportunity to support the development of self-determination is not maximized.

Evaluation activities. As policies and programs continue to broaden the access of students with ASD and ID to PSE, there needs to be a parallel focus on evaluating the activities and outcomes of such efforts. Evaluation can be done on a variety of levels. Grigal, Neubert, and Moon (2005) suggested that program data on college course access, employment, and participation in social or recreational activities should be collected as part of the regular course of operation.

Data collection does not need to be complicated, but it does need to be done on an ongoing basis and consistently reviewed to determine the strengths of the program and to identify areas that need improvement. For example, data on college course access can be completed by monitoring the names of courses taken during each semester, instructors' names, whether the courses were taken for credit or audited,

student grades (if applicable), and the type of educational supports provided to the student. This information can be used to illustrate the ability of students with ASD and ID to participate in and benefit from accessing college classes (Grigal & Hart, 2009) and should be shared with college personnel and administrators, families, secondary school educators, and rehabilitation professionals. These data also can be used to ascertain whether students' interests and career goals are reflected in course participation and the types of educational supports they need (Grigal & Hart, 2009).

While there are no commercially available evaluation tools for postsecondary initiatives for students with ASD and ID, the Postsecondary Education Research Center (PERC) project at TransCen Inc. has created an online tool to allow users to evaluate aspects of programs or services for students with ID who are receiving transition services in college and other community settings. The PERC Postsecondary Program Evaluation Tool (www.transitiontocollege.net) provides a snapshot of the quality of existing services and provides users with a concise evaluation report. It also provides users with the opportunity to create a customized action plan to address areas in need of improvement. The goal of all evaluation activities should be to review, advance, or improve current services and outcomes. The following is a list of suggested forms of potential data that can be included when creating an evaluation plan:

- documentation of staff time used to support students across environments;
- documentation of progress toward postsecondary goals;
- satisfaction of students, families, college personnel, and community personnel with services collected through written or personal interviews;
- documentation of changes in students' quality of life (e.g., more independent, more self-determined, more connected to the community);
- documentation of how logistics are handled (e.g., transportation, dispensing medication, adherence to code of conduct);
- record of exit data as each student leaves the program (e.g., Supplemental Security Income, employment, referral or acceptance to adult agency, goals for the future); and
- record of follow-up activities (e.g., documentation of former student outcomes in key areas such as employment, independent living, participation with adult agency, social activities).

Implications for Systems

The creation and expansion of PSE options for students with ASD and ID have a variety of implications for the

systems that currently support these students. As previously discussed, the mere presence of students with ASD and ID at colleges and universities can be seen as a dramatic shift in the mission and identity of PSE. Additionally, as students with ASD and ID, along with their families, express the expectation that they will attend college after high school, secondary schools must adjust their own vision for these students and address the preparation needs of these new college-bound students. Adult service agencies never may have considered the possibility of utilizing the services they provide in support of a college education, staff may have little or no knowledge of how that may work, and policies and procedures may need examination and modification.

Implications for local education agencies. The real possibility of college attendance for students with ASD and ID has many significant implications for secondary schools and the transition personnel who work with these students. Special and general educators, administrators, and support staff will need to be better prepared to discuss the possibility of higher education for all students, not only for those who are on the "college prep" track. Including PSE as a realistic possibility and then following through to ensure that students are prepared and connected to the needed supports will require new training and the development of different skill sets. Additionally, personnel preparation programs also will need to be changed to include the skill set needed for transition personnel who are being trained to enter the field.

To assist students with ASD and ID to access funding mechanisms for PSE, including access to financial aid via the Free Application for Federal Student Aid (FAFSA; once the new provisions of the HEOA are implemented) will require that high school special and general educators, as well as guidance counselors, be aware of the new financial aid regulations as well as other resources for financial support, including VR, Medicaid, and so forth. Educators, students, and families also will require information about the PSE options available in their communities and in neighboring states. Increased partnerships also likely will result from these expectations. More secondary schools will partner with 2- and 4-year colleges to create PSE initiatives. The number of dual-enrollment programs also likely will increase (Gaumer, Morningstar, & Clark, 2004), as this is an ideal bridge experience for students and the two systems that are involved in supporting them.

Implications for IHEs. The implications for IHEs are many. The most pressing ones will be associated with amendments to the HEOA of 2008 and its inclusion of provisions that will allow students with ID (and likely ASD) access to financial aid via Pell grants, Supplemental Educational Opportunity Grants, and work-study funds (Lee, 2009). More and more students with ASD and ID will be able to overcome the impediment of cost. These provisions will have a variety

of implications for the financial aid systems at colleges and the FAFSA, as well as on how these programs are implemented.

The influx of students with ASD and ID also will have clear implications for staff members in Disability Student Services (DSS) offices as well as academic advisors (Hart & Grigal, 2009). These personnel will need training and support on the expected outcomes for students with ASD and ID and how they are similar to and sometimes very different from some of the degree-seeking students with disabilities. As more students with ASD and ID go to college, the types of supports that are currently provided via the DSS office such as extended time on tests or other accommodations may eventually broaden to include more nontraditional supports mentioned previously, such as educational coaches or social navigators.

The coursework also may begin to reflect changes as additional students with nonacademic backgrounds enter college. The array of coursework in the continuing education and workforce development departments of colleges also may expand as the numbers of students increase. This outcome may benefit more than just the students with ASD and ID, as many students with diverse learning needs may desire a greater array of courses. Finally, the housing options at colleges will likely be affected, as many students with ASD and ID and their families seek opportunities for the development of independent living skills as well as access to PSE. Dorm access is often limited to matriculating students, and the policies that support this may need to be reviewed. As efforts to create new college-based initiatives expand, there must be a concerted effort to include students with ASD and ID in and among their peers without disabilities. Congregating students with disabilities into one wing of a dorm or into one apartment or house will not provide the opportunities for independence or social skills that more inclusive opportunities will and may even have a deleterious effect by reinforcing perceptions of difference with which students with ASD often struggle.

Robertson and Ne'eman (2008) indicated that housing services also contribute to enhancing the college experience for students with ASD. It is important that residence assistants be trained on the challenges affecting students with ASD who live in their dorms and learn how to support them. Housing services also can establish a peer-mentoring program that pairs college students with ASD alongside peers who can provide guidance, advice, and friendship.

Implications for state and local disability and community rehabilitation service agencies. It is a relatively new idea for community agencies that support adults with ASD or ID to think about providing services that support PSE. Staff members may have little idea about how to approach colleges, even if their clients are asking for those opportunities. Agencies may not encourage PSE because of their lack of

knowledge about this new area of community support. Agency personnel will need professional development to learn about the different ways that people with ASD and ID are accessing college, as well as receive training in the skills necessary to support adults effectively in college.

VR historically has not supported large-scale access to PSE for individuals with ASD and ID because these individuals are generally viewed as not being able to benefit from a college education. However, Migliore et al. (2009) conducted an analysis of the national VR database (RSA 911) and found that the small number of individuals with ID who were supported in PSE by VR had a competitive employment outcome and earned higher wages than those who did not participate in PSE. Despite positive employment outcomes for individuals with ID who received PSE services, the percentage of individuals who received these services as part of their Individualized Plan for Employment was low. As a result, the VR system will need to provide training regarding the purpose and potential benefits of supporting greater access to PSE for individuals with ID and ASD. Additionally, both pre-service and in-service professional development programs for rehabilitation counselors will need to be changed to include training on the benefits of PSE for students with ASD and ID, the evidenced-based practices that support student participation in PSE, and the linkage to competitive employment.

Recommendations for the Future

As discussed in this article, there is a growing interest in creating greater access to PSE for individuals with ASD and ID nationwide, and early experiences are introducing promising practices for appropriately supporting these students in college courses and social situations alongside their peers without disabilities. In order for greater access to occur there is a need for changes to policy, research to be conducted, demonstration of evidenced-based practices, and training and technical assistance. The following are recommendations to attain that end:

- include information about the resources and opportunities for PSE for individuals with ASD and ID in the undergraduate and graduate personnel preparation programs for K-12 general and special education teacher education and rehabilitation counselors;
- provide professional development for faculty members, academic advisors, rehabilitation counselors, and disability service personnel on the rationale for including individuals with ASD and ID in PSE and the practices that will support it, such as universal design;
- when Congress reauthorizes IDEA, the Developmental Disabilities Act, the Americans With Disabilities Act, No Child Left Behind, the Workforce Investment Act, and the Rehabilitation Act, it should ensure that they are aligned by including a common definition of individuals with ASD and ID and with provisions that further develop and support access to PSE for these individuals (e.g., model demonstrations, research, training and technical assistance);
- define a PSE program consistently across legislation and include “program” as a course of study consisting of existing college courses related to a career rather than a separate “program” designed solely for students with disabilities;
- coordinate outreach to families to provide knowledge about PSE for individuals with ASD and ID via the Office of Special Education Programs National Coordinating Center, Parent Training and Information Centers, Regional Resource Centers, and Training and Technical Assistance initiatives (e.g., Transition Community of Practice and Least Restrictive Environment, National Secondary Training and Technical Assistance Center);
- explore the creation of dorm or residential options on and off college campuses;
- build partnerships between IHEs and employer and business networks;
- build partnerships between IHEs and state and local agencies that serve adults with ID;
- address monitoring and evaluation of standards and practices; and
- ensure that variables reflecting these new programs are incorporated into existing college search options for students and families.

Summary

PSE for students with ASD and ID is a new but expanding endeavor. It offers great promise to individuals with ASD and ID to participate in and take advantage of the benefits of a college education. When opportunities are provided that are inclusive and take advantage of the naturally occurring learning environments that are a part of every college campus, PSE offers the greatest possibility for maximizing growth and life enhancement. As students with labels of autism or intellectual disability pursue their educational dreams of attending college, they shatter previously held assumptions about what is possible. We have the opportunity now to create initiatives that take advantage of what we know to be best practices in the education of students with disabilities: real choice, true inclusion, and high expectations. PSE

initiatives should be structured to fit seamlessly within the IHE and should not use practices to make students with ASD and ID stand out from other students.

President Obama issued a powerful challenge to his own administration and to individual citizens in his remarks to Congress on February 24, 2009, calling on every American to commit to attending at least 1 year of college so that the country can reclaim its lead as the best educated nation in the world (Obama, 2009). This charge highlights the important role of PSE—to an educated citizenry and to improved employment outcomes, as well as for less-measurable outcomes such as improved status and self-esteem and increased social connections. With acknowledgment of the preeminent role that a higher education can play, this goal truly must include *all* Americans, including individuals with ASD and ID.

Appendix

Program Snapshot Number 1: Western Connecticut State University, Danbury, Connecticut

The Western Connection Program— A Dual-Enrollment Program

The Western Connection program is coordinated by the Danbury Public School System at Western Connecticut State University (WCSU) and serves 8–12 students between the ages of 18–21 years each semester who are enrolled in several different school systems within southwestern Connecticut. WCSU provides, at no cost, office space on campus, along with access to copiers, telephones, fax machines, and campus facilities (including college ID cards, food areas, gyms, libraries, computer labs, and the career center). Students' tuition for classes is paid by the school system, at a negotiated rate, and costs are shared between the sending school districts. The focus of Western Connection is to increase student skills and experiences in the areas of employment, self-determination, and PSE. All students participate in person-centered planning activities to determine the focus and expected outcomes of services. All Western Connection students audit college classes on campus each semester. Students are supported in the creation of personal goals and encouraged to share these during IEP meetings each year. Career development and awareness are nurtured through such activities as job interviewing practice, filling out job applications, and visits by students to the college career development center on campus. By the spring semester of the student's first year, students work with staff to obtain integrated community-based paid employment. Once a student acquires a paid position, the program coordinator and job coach provide follow-along support to the student and the employers. Students are also

Appendix (continued)

involved in campus activities, clubs, and organizations that are of interest to them. In 2007, 92% of students were employed, averaging 8.3 hours per week and earning an average of \$7.50 per hour. One hundred percent of the students audited classes at the college (history, theater, psychology, English courses). (Reprinted with permission from Paul H. Brookes—Grigal & Hart, 2009.)

Program Snapshot Number 2: Massachusetts Bay Community College, Wellesley, Massachusetts A Dual-Enrollment Program

Massachusetts Bay Community College (MBCC) is committed to providing all students with the opportunity to be active members of the college community, to assisting them in meeting their future goals, and to helping them become contributing members of their communities. Faculty and learning specialists have been trained in Universal Course Design, and they have integrated this strategy into their courses to ensure access to course content by a diverse array of students. In addition, MassBay's education coaches work closely with each student to support his or her experience and meet their individual needs.

MassBay, has entered into a partnership with the Newton, Needham, and Boston Public Schools to help high school students (ages 18–22) with ID and Autism to access inclusive academic courses and other aspects of college life, using the same supports as any other student, the difference being that they are provided these supports with a greater intensity, as needed. This partnership supports approximately 20 students a semester.

Overall, students are still in high school, and are dually enrolled in MBCC; occasionally students choose to continue to take courses even after they graduate from high school. The overarching goal of this initiative is to provide students with ID typical inclusive academic, social, and paid employment experiences that students without disabilities participate in and that lead to competitive employment when or as they are leaving school.

Initially students participate in person-centered planning to assist them in identifying a career path and other transition-related goals. They are then supported in enrolling in courses of their choosing as they relate to their career goal and in taking part in all aspects of college life (e.g., use of fitness center, lunch in student union, signing up for tutoring services). Across the board, students demonstrate an increase in self-determination skills and overall self-esteem. All students learn to independently take public transportation from

(continued)

Appendix (continued)

their home to the college campus. Students collect a portfolio of their work and create reflections of their college experiences to share with peers and future employers. Students participate in job shadowing, internships, and community service, and eventually enter paid employment in a job related to their career goal (e.g., massage therapist, office manager). Approximately, 75% of the current 20 students are in paid competitive employment. (Reprinted with permission from Paul H. Brookes—Grigal & Hart, 2009.)

Program Snapshot Number 3: Edgewood College, Madison, Wisconsin The Cutting Edge Program—A College-Initiated Program

The *Cutting-Edge* is an individualized approach to inclusion for adult learners with significant disabilities based at Edgewood College. The primary objective of the *Cutting-Edge* is to serve individuals with disabilities on a college campus with peers without disabilities giving them the opportunity to experience college life. This program strives to fit the individual needs of each student, rather than having the students try to fit into a predetermined mold. The *Cutting-Edge* has a set of core credit courses (a total of 5 credits each semester) that are required for students. In addition, the students are encouraged to take 1 to 4 inclusive college courses for credit or audit each semester. Student participation is facilitated by the Director of the *Cutting-Edge*, a Program Coordinator, and through peer mentor relationships where *Cutting-Edge* students are paired with undergraduate and graduate students in academic and social settings. Three faculty members in the School of Education have incorporated a practicum experience as part of their course requirements and students complete their practicum by serving as peer mentors. Students who are seeking teaching certification were able to earn practicum hours and gain hands-on experience with inclusion in college. (Reprinted with permission from Paul H. Brookes—Grigal & Hart, 2009.)

Snapshot Number 4: Katie Student-/Family-Initiated Experience

As Katie was finishing high school and preparing for adult life, there was no question that she would be going on to college. Katie led the quest to find a college to attend and all family members agreed and supported her. After much research she and her mother were able to identify Becker College in Worcester, Massachusetts, they had two courses of study (education and physical therapy) that Katie was

interested in at the time. Katie was accepted and began Becker College in September 2004. The first year presented challenges including living in a dormitory with a roommate, balancing a full course load with wanting to socialize with classmates, making friends, navigating campus, being away from home, and learning how to advocate for needed accommodations. While at Becker, Katie assisted a classmate who had a hearing disability by interpreting some of the lecture material in a psychology class they both attended. This experience compelled Katie to follow her passion of working with individuals who were deaf and studying ASL. In September of 2007, Katie entered her second college, Mt. Aloysius as a transfer student to study in their Deaf Education program. A sample of courses that Katie took included:

- | | |
|---|-------------------------|
| • American Sign Language 1 and Rhetoric 1 | • Cultural Literacy |
| • Psychology/Social Issues of Deafness | • Computers (2 classes) |
| • American National Government | • Cultural Literacy |
| • Psychology/Social Issues of Deafness | • Anatomy |

For Katie to be successful she required a wide range of accommodations that included:

- | | |
|--|-----------------------|
| • Enlarged print: 18pt. font minimum | • Note Taker |
| • Use of Computer rather than handwriting for class work | • Oral Tests—untimed |
| • Study guides given one week minimum ahead of tests | • Kurzweil Reader |
| • All Quizzes, if not oral, extended time | • Books on CD |
| • Assistive Technology—continually updated | • Print double spaced |
| • Specialized Computer Software (i.e. Inspiration, Visual Thesaurus) | |
| • Limited writing requirements | |

Katie graduated from Mount Aloysius in May of 2009. She has an Associate of Science degree in General Studies with a concentration in Deaf Education. Katie's long-term goal is to return to Boston and work in a hospital or educational setting as a sign language interpreter for individuals who are deaf. (Reprinted with permission from Paul H. Brookes—Grigal & Hart, 2009.)

Author's Note

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About the Authors

Debra Hart, MS, has over 30 years of experience working with youth and adults with disabilities, their families, faculty, and professionals that support youth in becoming valued members of their community via participation in inclusive secondary and postsecondary education, and competitive employment. Currently, she is the director of three national postsecondary education grants. Together, these projects conduct research to better understand characteristics and outcomes of postsecondary education options for youth with intellectual/developmental disabilities, to provide training and technical assistance to enhance existing postsecondary

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