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Understanding Developmental Students' Constructions of Personal Vision and Experiences with Community College

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COLLEGE OF EDUCATION

UNDERSTANDING DEVELOPMENTAL STUDENTS' CONSTRUCTIONS OF

PERSONAL VISION AND EXPERIENCES WITH COMMUNITY COLLEGE

By:

Kelley C. Hodges

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Department of Middle and Secondary Education
in partial fulfillment of the
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The members of the Committee approve the thesis of Kelley Hodges defended on June 20, 2005.

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ABSTRACT

    This thesis uses a qualitative action research design involving developmental mathematics students at a community college. The students are first generation, low income, and they are enrolled in developmental mathematics. The heart of this research is about helping students who are at risk for failure. The research questions focus on how developmental mathematics students construct a vision for their lives, and how that vision fits into community college, and how they experience current reality. The results of the study convey the vulnerabilities of the developmental learners. They experience feelings of being powerless, low self-image, multiple responsibilities, conflict and confusion. The results also highlight the strengths of developmental learners. They experience transformation of thought and desire for self-actualization.

CHAPTER ONE

OVERVIEW OF THE STUDY

Introduction

Henry David Thoreau (1854) wrote, "I know of no more encouraging fact than the unquestionable ability of man to elevate his life by a conscious endeavor." For many of my students, that endeavor is formal education. Unfortunately, they have many obstacles to overcome before their accomplishment comes to fruition. I teach developmental mathematics at a community college in the southeastern United States.

I hope that in allowing learners to create a vision that is relevant to their desires that they will consciously make choices that will motivate their learning and help them reach their goals. This thesis uses a qualitative action research design involving developmental mathematics students at a community college. The students are first generation, low income, and they are taking developmental mathematics courses. The heart of this research is about helping students who are at-risk for failure. The research questions focus on how developmental mathematics students construct a vision for their lives, and how that vision fits into community college. The second part of this research is how developmental students experience current reality, and how it relates to their personal vision.

Action Research

The Educational Resources Information Center's (ERIC) defines action research as research designed to yield practical results that are immediately applicable to a specific situation or problem (Stringer, 2004). It is a unique form of qualitative research because of its immediate practical or applied purpose. Action research is described as a cyclical process of systematic inquiry. There are three similar, yet slightly different descriptions of the cyclical nature of this research. Lewin (1948) defines the process of action research as a three step spiral process of planning, taking action, and fact finding about the results of the action. Carr and Kemmis (1986) describe action research as a four-step process of planning, acting, observing, and reflecting. Lastly, Stringer (2004) describes it

as three steps of look (observation), think (reflection), and act (action). For the purpose of this study, I will use Stringers' three-step action research cycle. Action research allows the teacher to be the researcher. This form of inquiry enables teachers to engage in systematic inquiry with the intent of improving their educational practices or solving significant problems they experience in their professional life (Stringer, 2004). I intend to use this research to gain greater understanding of developmental students and improve my teaching practice as a result.

Developmental Students

Current research demonstrates the importance of understanding the developmental learner. I define the label of developmental student and discuss the characteristics and risk factors that provide insight into these students. Developmental students are college students who lack the requisite skills necessary for college coursework (Young & Ley, 2003). This means that they need to take remedial courses prior to their college coursework. About one of five developmental students is married, two out of five receive some form of financial aid, about one in three work 35 hours or more per week, and their ages range from 16 to 60 (Boylan, 1999; NCES, 1998). They are more likely to be a first generation college student, low socioeconomic status, culturally disadvantaged, with low self-esteem, and high failure expectations (Grimes, 1999). A first generation college student is a person whose parents have not received a college degree (NCES, 1998). They are also more likely to work off-campus and more likely to work full-time (NCES, 1998). They are less likely to attain a bachelor's degree and more likely to earn a vocational certificate than their non-first generation counterparts (NCES, 1998). A longitudinal study conducted by the National Center for Education Statistics (NCES) examined academic careers of 2.45 million students in more than 2,500 institutions. The graduation rate for those students not enrolled in any developmental courses was 55% whereas the graduation rate for those students taking three or more remedial courses was 24% (McCusker, 1999). Financial status also influences a developmental student's college experience. In this study, low socioeconomic status is defined as students who have been awarded a Pell Grant or receive financial aid to attend college. Pell Grants are awarded to students who demonstrate sufficient financial need based on family income assets, and other factors (Wei & Horn, 2002). The risks for low-income students for

completing a college degree include delaying enrollment, being financially independent, having dependents other than a spouse, or being a single parent (NCES, 2003).

Developmental Education

Community colleges have become an integral part of providing developmental education to students (Carnevale & Desrochers, 2001; Levin, 2001).   Developmental education is an umbrella term for a wide range of learning-centered activities (National Association for Developmental Education [NADE], 2001). There are several key goals; (1) to preserve and make possible educational opportunity for each postsecondary learner, (2) to develop in each learner the skills and attitudes necessary for the attainment of academic career, and life goals, (3) to ensure proper placement by assessing each learner's level of preparedness for college coursework, (4) to maintain academic standards by enabling learners to acquire competencies needed for success in mainstream college courses, (5) to enhance the retention of students, and (6) to promote the continued development and application of cognitive and affective learning theory (NADE, 2001). These goals are comprehensive, they are meant to include intellectual growth in conjunction with social and emotional development (Casazza, 1999). A student's academic success is directly related to the quality of the developmental studies program offered at their college (Boylan, Bliss, & Bonham, 1997).

Retention

Criticisms of developmental education include students' feelings of discouragement and frustration when they are enrolled in developmental courses (McCusker, 1999). The discouragement and frustration affect a college's ability to retain students who struggle. I explain retention through my experiences as a developmental teacher, current research, and how it relates to this research study.

I see and feel this with the developmental students in my classrooms. They are frustrated to be placed in classes that do not carry college credit, and discouraged to find out that they will need as many as six mathematics classes to graduate. These feelings of frustration and discouragement can lead to withdrawal and eventual departure from college, which adds to the high attrition rates for developmental students (LeClair, 2004). I often feel powerless to change a students' mind when they have decided to leave. In the fall semester of 2004, I started with 26 students. Eight of the students left before the

sixth week of a 20-week semester. The numbers and statistics speak little of the real-life experiences of the students in my developmental mathematics classes. One student was a returning student who wanted an education because he did not want to be working in construction for the rest of his life. He was working full time, and attending classes on his days off. His primary complaint consisted of how little the mathematics related to what he was doing. He did not make it past the third week.   Another student was a full time employee at a grocery store and a mother of three young children. She struggled throughout the semester to attend class and study for tests. She completed the course with a passing grade, but will not be returning for another semester.

Their personal stories are typical of the students that fill my classrooms. They highlight the reasons that developmental students fail to complete their educations and reach their aspirations. Their stories also compel me to look for insight and understanding as to what will motivate them to continue their education.

Personal Mastery

Personal mastery is a set of practices that support people in keeping their dreams whole while cultivating an awareness of the current reality around them (Senge et al., 2000).   It enables adults to focus on significant questions surrounding their deepest desires, reality, and choice. The questions that embody personal mastery best allow the learner to ask him or herself about what they want to create in their lives, the nature of their current reality, and the choices that they need to make to get closer to their dream. Personal mastery consists of three principle parts: personal vision, current reality, and choice.   I discuss the three aspects of personal mastery, define their characteristics, purpose, and their definition with regards to this study.

Vision. Vision comes from the Latin root, videre, which means, "to see" (Webster, 1988). It has many meanings, including, the mode of seeing or conceiving, and the act or power of imagination (Webster, 1988). In this research, I am using the word vision to describe the image of one's desired future. Vision is essential in the pursuit of higher education because it is the driving force behind a student's commitment to learning. Senge, Kleiner, Roberts, Ross, & Smith (1994) suggests that when learning is related to a person's own vision that the person will do whatever he or she can do to keep learning alive.   Fritz (1989) calls vision an organizing principle, or the product that a person

wants, and goals are a means to that end. The result of a person knowing their personal vision is the clarity that they must change their life in order to reach that result, a commitment to that result, attentiveness to what is going on around them, and a sustained sense of energy (Senge et al., 1994). I believe that creating a vision is like creating a theory; it may or may not relate to practice. For the purpose of this research study, understanding how students construct a vision is my primary goal.

Creating a personal vision begins with a visualization exercise (Fritz, 1989; Senge et al., 1994). Being able to picture what you want enables you to work from knowledge rather than from speculation (Fritz, 1989). Senge et al. uses a four step process for the visualization exercise: (1) creating a result, (2) reflection, (3) articulation of one's personal vision, and (4) clarification of the vision (Senge et al., 2000). Through this process, a person develops his/her vision from a multi-dimensional standpoint. The learner is able to consider how their vision relates socially, materially, relationally, personally, with their work, and health.

Current reality. Moving from vision to current reality is a process which the learner begins to articulate the relationship between what they want (personal vision) and where they are (current reality). Fritz (1989) calls the dichotomy between personal vision and current reality structural tension. Structural tension is the discrepancy between what you want to create and you currently have in relation to the creation (Fritz, 1989). Tension is resolved when the fulfillment of personal vision becomes a reality.

Fritz (1989) describes the importance of understanding current reality as a means to understanding what really matters to you. Defining current reality means that the individuals look at every aspect of their lives as they are experiencing it (Senge et al., 2000). In this study, understanding current reality means to identify the state of family, relationships, work, and school.

Choice. The process of choice is about picking the results and actions that will consciously move you towards your personal vision. By making clear choices that are relevant and meaningful to the learners' vision, they are able to mobilize vast energies and resources that otherwise often go untapped (Fritz, 1989). The process of developing a plan of action, priorities, and values that support your effort are the essence of the creative endeavor of reaching your vision.

Issue

The college where this research takes place enrolls a significant number of students who are low income and first generation. Fifty percent of the students have low income and 65% are first generation college students (LeClair, 2004). In 2004, 40% of the student population at the community college was enrolled in developmental mathematics (GCCC, 2004b). Developmental mathematics courses are pre-algebra, introductory algebra, and intermediate algebra. Pre-algebra and introductory algebra credits do not count toward a degree and the grades are not reflected in their college grade point average (GCCC, 2004a). Intermediate algebra can be used as an elective college credit, but it does not count towards the college's mathematics requirements. For a student who begins in pre-algebra, they will need to take as many as six mathematics courses to meet the college's degree requirements.

Problem

I teach pre-algebra and introductory algebra. Students in my classes range in age from 18 to 50. I have students who have just finished high school, single parents, returning students, and adults changing careers. They share a common need for developmental education, but their life experiences create a unique dynamic in the classroom. I struggle with student apathy, high dropout rates, and students with low self-confidence. I started the fall semester of 2004 with 26 students in my pre-algebra course. Of these, only 16 finished with a passing grade. Four stopped coming to class within the first three weeks, three more dropped by the sixth week, and the remaining students struggled to make passing grades. In preparation for this thesis, I asked the students to write reflections after each unit test. They were asked to respond to questions like, did you prepare for this test? If so, how did you study? Did you attend any workshops? Did you seek help from tutoring, the teacher, or a friend? I learned that most of the students did not do homework, prepare for tests, or ask for help outside of the classroom. These reflections have led me to believe that developmental students need to have personal mastery in order to succeed in the learning.

Research Questions

My research questions are the following:

1. How do developmental students construct a personal vision?
2. How does a developmental student's personal vision fit with community college?
3. How do developmental students experience current reality?
4. How does current reality fit with their personal vision?

Connection to Science Education

I want to answer the question of how this study is relevant to the science education community. Science and mathematics are intimately connected, you cannot have one without the other. In the college environment, there are mathematics prerequisites prior to taking science classes like chemistry and physics. At this particular community college, students must have completed intermediate algebra in order to take the fundamentals of chemistry. These prerequisites are just a glimpse of the mathematics skill level required for undergraduate science courses. Maple and Stage (1991) refer to this connection as a mathematics pipeline. The mathematics courses feed into the science courses. The science courses that require mathematics are not only for those majoring in a pure science, it is relevant for those majoring in health related fields, as well. Verhovsek (2003) cites a rise in demand for highly trained health professionals who are proficient in mathematics calculations. Vershovek (2003) also cites that many programs are finding it increasingly difficult to attract people because of their fear of mathematics. In my experiences as a tutor and developmental mathematics teacher, I have talked to students who have changed their major from a science related field because of the mathematics. I believe that understanding the students who are at the beginning of the mathematics/science pipeline will inform my teaching as a science educator.

The conscious endeavor to an education, whether it is science or mathematics, is more than the acquisition of skills. It is a journey of courage, learning, development, and transformation. I believe that the significance of this study lies in the hope that helping students to develop and clarify their vision will make a positive difference in their lives. It is a study that looks beyond the subject and reaches for the heart of the student.

CHAPTER TWO

LITERATURE REVIEW

Introduction

"Personal mastery is a set of practices that support people—children and adults—in keeping their dreams whole while cultivating an awareness of the current reality around them" (Senge et al., 2000 p.59). It includes at least three key ingredients: personal vision, current reality, and choices. Philosophy, learning theory, and business management make up the foundations that support personal mastery, with learning theory being the most influential factor. In this literature review, I discuss the theoretical framework, learning theory, motivation, factors affecting motivation, self-actualization, learning in developmental mathematics, adult learning, and English as a second language.

Theoretical Framework

The primary perspective that informs this study is transformational learning. It is a learning theory focused on both the individual and social constructions of meaning (Merriam & Cafarella, 1999). The relevance of transformational learning to this study is the way personal mastery is implemented. Personal mastery engages the participant in critical reflection, discourse, and encourages them to act on their choices. To discuss transformational learning, I start with the individual and social constructivism, the emergent perspective and the beliefs that each theory espouses about the nature of knowledge.

Individual versus Social Constructivism. Constructivists believe that the basis of the nature of knowledge comes from the learners' experiences. The learner constructs meaning based on their experiences. There is debate as to whether the individual learner constructs knowledge alone or socially.

Individual constructivists believe that an individuals' previous and current knowledge structure is dependent on how a person makes meaning (Merriam & Cafarella, 1999). From this perspective, learning is an internal cognitive activity. Teaching from the personal constructivism perspective involves providing experiences that induce cognitive conflict and encourage learners to develop new knowledge schemes that are better adapted to experience (Merriam & Cafarella, 1999).

Social constructivists, on the other hand, believe that knowledge is transactional. Construction of knowledge happens when individuals engage socially in talk and activity about shared problems or tasks. Teaching from the social constructivist perspective involves group activities. These activities include negotiating the rules of discourse and participating in an exchange of views, accompanied by questions and explanations (Gredler, 2005).

Emergent Perspective. Cobb (1994) describes the emergent perspective as a coordination of personal and social-constructivist theories. This view permits analyses of learning from both the social and the individual perspective in situations in which neither is primary. Teaching from the emergent perspective allows the teacher to jointly negotiate rules of discourse, yet allow the individual constructions to develop through explaining and justifying one's solutions, and making sense of the explanations of others (Gredler, 2005).

Transformational Learning. Transformational learning theory focuses on both the individual and social construction of meaning (Merriam & Cafarella, 1999). In transformational learning, ones' values, beliefs, and assumptions compose the lens through which personal experience is mediated and made sense of (Merriam, 2004). Transformational learning is a fundamental change in the way the learner sees themselves and the world in which they live. In the following discussion of transformational learning, I discuss the goal of transformational learning and the key concepts behind this process.

The goals of transformational learning are two-fold. The transformational learning process is personal for the learner and a process for adult educators. Simply put, transformational learning for the learner is a process of making meaning of their lives, a journey towards independent thinking. From the perspective of adult education, the process is about helping learners towards this goal. Mezirow (2000) wrote about the importance that adult educators must put towards this process when he described the learner as needing greater autonomy in thinking.

What is the process of transformational learning? According to Mezirow (1997), significant transformational learning involves three phases: critical reflection on one's assumptions, discourse to validate the critically reflective insight, and action (p. 60). The

process includes the following ten phases: a disorienting dilemma, self examination, critical assessment of assumptions, relating problems to others (shared concerns), exploring options for new ways of behaving, developing competence in new roles, planning a course of action, acquiring knowledge and skills for implementing plans, provisional efforts to try new roles and assess feedback, and reintegration into society (Merriam & Cafarella, 1999). The key to the entire process, however, is critical reflection. According to Mezirow (1991), critical reflection has three distinct categories: content, process, and premise. The three categories help the learner reflect on the actual experience, develop problem-solving strategies, and examine long held socially constructed assumptions, beliefs, and values about the experience or problem (Merriam & Cafarella, 1999). Discourse to validate critically reflective insight is the process of exposing the learner to communication that is objective and rational; the goal is to test new meanings for authenticity. Ideal conditions for discourse involve having complete information, being free from self-deception, and objective evaluation (Merriam & Cafarella, 1999). Finally, action is the final phase of transformational learning. The action taken is unique to the disorienting dilemma, like a career change or a divorce.

Learning Theory

The nature of this thesis revolves around questions that I have asked myself regarding my teaching and my students. I want to know how I can improve my teaching, more specifically, I want to know what learning will create meaningful experiences for the students in my classrooms. I want to know the driving force behind developmental students' motivations to learn so they can achieve their aspirations. I discuss the research related to motivation, self-actualization, and personal growth.

Motivation.

Piaget (1973) identifies two sources of motivation in learning. The first is need, which includes physiological, affective, and intellectual. The second motivation is the specifics of need at a certain age or developmental phase. Need is a manifestation of a disequilibrium, and when the need is satisfied, equilibrium is restored (cited in Gredler, 2005). Creative tension of personal mastery is the difference between where you are (current reality) and where you want to be (personal vision). Piaget's disequilibrium depicts a similar dichotomy between want and need.

Maslow (1973) proposed a theory of human motivation based on a hierarchy of needs. At the lowest levels are the basic physiological needs and safety. The primal motivations include needs such as hunger, thirst, and protection. The upper levels in Maslow's hierarchy are belonging, love, self-esteem, and the need for self-actualization. According to Maslow (1973) the need for love, affection, and belonging are necessary for people to develop self-esteem, which is needed for self-actualization.

Factors that affect motivation. Research in the field of motivation implicates that there are many reasons that students engage in learning. Some of these factors include socialization, self-efficacy, and personal aspirations. The following research studies suggest that a myriad of factors spark motivation. Wigfield, Eccles, and Rodriguez (1998) discuss the importance of social interactions on student learning. Stage (1989) highlights persistence in college as being related to social relationships, social welfare, as well as professional advancement and cognitive interest. Zimmerman, Bandura, and Martinez-Pons (1992) suggest that motivation for academic attainment is related to self-efficacy, academic goals, and self-regulation. Iversen (1995) reports poor African American women and found that a major determinant for low-income women in achieving satisfactory employment is related to academic goals and job aspirations that are developed early in life. Latham and Yukl (1975) examine goal setting in employee performance, and find when an individual's conscious intentions regulate his actions, performance improves. I believe that helping students articulate their vision allows them to act according to their unique situations, and to develop a system of goals and habits of choice that will enable them to reach their goals and aspirations.

Self Actualization.

The desire to become everything that one is capable of becoming is self-actualization. The process of self-actualization revolves around the question, where will motivation to learn take the learner? Maslow (1973) presents a research study about self-actualizing people. A few of his assertions regarding self-actualized people are that they are able see reality more clearly, have spontaneity in their behavior, thought, and impulses, they are problem-centered, meaning that they are capable of focusing on problems outside of themselves, they are connected, autonomous, and creative. This particular research was interesting because Maslow's motivations were personal, and his intentions for the work

were for his benefit, however, as his research progressed, he felt compelled to share his findings. The self-actualization process described by Maslow is relevant to this thesis because the process of constructing a vision is or can be a self-actualizing process.

The process of self-actualization and personal growth are important for all learners, but may prove to be extremely relevant to developmental learners in particular. Sahakian (1984) notes that self-actualization is the primary source of learning, and acknowledges that there are other goals. Among the goals that Sahakian (1984) points to as critical include the discovery of a vocation or destiny, a sense of accomplishment, the control of impulses, and learning to choose discriminatively. Similarly, Rogers (1983) notes the importance of personal growth in learning. According to Rogers, there are five characteristics of learning that lead to personal development (cited in Merriam & Cafarella, 1999). The five characteristics include personal involvement in the learning experience, self-initiated discovery, and reflective evaluation of the experience. Adult learners, especially developmental students, need meaningful learning opportunities that help them to discover their vocation, recognize their values, and articulate their choices. Opportunities to discover and voice a personal vision are not only a self-actualizing process, but the origin of meaningful learning.

Vision. To understand the process of meaningful learning, it is important to understand how an individual's learning is connected to their vision. Lindeman (1926) suggests that "meaning must reside in the things for which people strive, the goals which they set for themselves, their wants, needs desires and wishes" (cited in Kroth & Boverie, 2000). Dewey (1916) describes the opportunity to learn as the key to happiness, and referred to the discovery of one's mission or purpose as one's true business in life. Kroth and Boverie (2000) investigate the relationships between adult learning and life mission. Their study suggests that learning is enhanced when adults understand their life mission and how it is related to their own experiences in learning.

Learning in Developmental Mathematics

Many careers and college programs require mathematics as a pre-requisite. Stage and Kloosterman (1995) refer to these courses as "gate keepers" that filter many students out of careers they might otherwise pursue. Stage and Kloosterman (1995) examine gender, beliefs, and achievement in remedial college level mathematics. Their study reveals that

students' beliefs about mathematics affect their success in the course. For example, if a student enters a developmental course with the belief that they already have difficulty learning mathematics, they are less likely to experience success. Elliott (1990) recognizes that beliefs affect non-traditional college students or older returning students. Many adults return to school with low self-esteem and a lack of confidence and are self-critical (Elliott, 1990). "The importance of beliefs about efficacy shape choices of activities, careers, environments, and thereby lives" (Grimes, 1999 p.13). Self-efficacy is the degree to which an individual possesses confidence in his or her ability to achieve a specific goal (Gredler, 2005). Low self-efficacy in developmental students can decrease motivation and affect a student's persistence at college (Grimes, 1999). Hackett (1985) found that mathematics self-efficacy was predictive of mathematics anxiety and choices in mathematics related majors (cited in Maple & Stage, 1991). Maple and Stage (1991) also demonstrate the relationship between low-level mathematics courses and choice of science courses and science related majors. A student who does poorly or repeats a developmental mathematics course is less likely to choose a major in the science field (Maple & Stage, 1991).   There are direct and indirect relationships between self-efficacy and personal goal setting (Zimmerman, Bandura, & Martinez-Pons, 1992). The combination of strong self-efficacy and goals contribute to subsequent academic attainments.   A person's beliefs about mathematics are related to their self-efficacy, which is similarly related to their goal setting and attainment and transformative learning.

Adult Learning

   The students in my classroom are adults. They are people with life experience and diverse backgrounds that necessitate the acknowledgement of their unique qualities. Knowles (1980) defines adult education as the art and science of helping adults learn. Knowles poses five assumptions about the adult learner: (1) as a person matures, his or her self-concept moves from dependent personality toward one of a self directing human being, (2) an adult accumulates a vast amount of experience, which is a resource for learning, (3) the readiness of an adult to learn is closely related to the developmental tasks of his or her social role, (4) an adult is more problem-centered than subject-centered in learning, (5) adults are motivated to learn by internal factors rather than external ones (cited in Merriam & Cafarella, 1999). Vella (2000) describes the adult learners as

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decision makers in their own learning. Their learning maintains three assumptions: human beings are decision makers in their own lives, learning is an event in which individuals are able to practice being who they are, and transformation is a change into one's new self, informed by new knowledge and skills.

Merriam and Cafarella (1999) suggest that life transitions motivate the adult learner to seek out learning experiences. These transitions may include marriage, retirement, job changes, birth of children, or divorce. "Whether good or bad, anticipated or unanticipated, transitions provide an individual with the opportunity to take charge of their life" (Reeves, 1999). Bridges (1980) views life transitions as catalysts for adult development. Mezirow (1997) calls these events disorienting dilemmas (as cited in Merriam, & Cafarella, 1999). They are the triggers for the adult learner to engage in the process of transformational learning. Transformational learning is about change, dramatic, fundamental change in the way we see ourselves and the world in which we live (Merriam & Cafarella, 1999).

English as a Second Language

The influx of students who speak a language other than English is an issue developmental educators face. Wellner (2002) cites a United States census done in 2000 that shows 50 million people use a language other than English to communicate with their loved ones. Sixty percent of those mentioned are Spanish speaking. For these people, the distance from their native country is physical, emotional, and psychological. For developmental educators it is important to understand the social, cultural, and learning strategies of these students. Mccargar (1993) cites cross-cultural studies that show a student's native culture affects their ideas of teacher and student roles in the classroom. These students need to learn how to take part in academic discourse and learn the target cultures' ways of knowing and learning (Watkins-Goffman, 1997). In addition to these differences, there are differences in how males and females learn within the context of a different culture and language. Gilligan (1982) claims that females social image is a web, whereas males social image is hierarchal. This means that females show a need for social approval and acceptance. Their social learning strategies may include more time communicating with native speakers that in turn influences their motivation to learn (Ehrman & Oxford, 1988). The experiences of students whose native language is

something other than English is complex. It is a combination of cultures, languages, and socialization in addition to the academics.

Conclusion

The motivation to learn is formed from the tension created between where we are in relation to where we want to be. Mezirow (1997), Sahakian (1984), and Lindeman (1926) refer to the importance of meaning and purpose in education. Senge et al. (2000) observes that learning does not occur in an enduring manner unless it is sparked by the learners' interest and curiosity. "Learning is driven by vision, it can provide the power for people to learn and grow even when their situations or environments are disempowering" (Senge et al., 2000, pp. 21-22). Helping learners to articulate their vision and life goals allows for them to engage in a process of self-actualization and discovery, and my hope is to create learners that seek education purposefully.

CHAPTER THREE

METHODS

Methodology

Introduction

The progression of this thesis has been an evolutionary process for me as an individual, a teacher, and a student. Throughout my graduate studies, I have looked at various aspects of my teaching and student motivation. I want to understand developmental students and their motivations to learn. Prior to this research, I conducted informal action research in my classroom on collaborative learning. I focused on how developmental students interact and learn through collaborative learning. This opportunity to conduct research in my classroom showed me the effectiveness of collaborative learning and the power of the action research paradigm. I still, however, did not feel like I understood why some students persist in their education and others do not. In the fall of 2004, I was introduced to Peter Senge's (2000) writing. His focus on creating a personal vision seemed to hit at the heart of what I have been trying to understand. I chose to use an action research paradigm because it would allow me as the teacher and as a researcher to look closely at the students that I teach. Van Manen (1990) views this type of research as an opportunity for the teacher researcher: it is a way of putting us in touch with the students versus in command of them (as cited in Stringer, 2004).

This chapter details the decisions that I made and the methods that I used in planning and implementing this study. I begin by discussing the scope of the study and its stakeholders. I follow with an explanation of my research methods, which describes data collection as well as ethics, credibility, transferability, dependability, and confirmability. Finally I discuss the research procedures. This final section includes procedures for creating a personal vision and current reality.

Scope

This research took place at a community college in the southeastern United States. As of the fall of 2003, the college had a total enrollment of 6,058 students, with 58% of the students ranging in age from 17-24 years with 42% being at least 25 years old. The

student population was 80.9% Caucasian, 11.2% African-American, 2.7% Hispanic, and 2.1% Asian/Pacific Islander. I conducted the research study between February 2005 and April 2005.

Stakeholders

The students who participated in this study took developmental mathematics, have low incomes, and are first generation college students. They are a part of the general student body, part of the developmental studies, and part of a population of students who are at risk for failure. In homogenous sampling, the researcher purposefully samples individuals or sites based on membership in a subgroup that has defining characteristics (Creswell, 2005). I have chosen this group because they are representative of a significant portion of the students that I teach. I also chose this population because I tutor them and am able to develop a relationship with them outside of the classroom. My feeling is that the trust created through this relationship informs the study and contributes to its integrity.

Methods

I wanted to make my method of collecting data consistent with qualitative inquiry.   I used formal and informal interviews, journal writing, e-mails, observation, and field notes as means to understand how developmental students construct a vision and experience current reality. I conducted observations as a participant observer. Participant observations allow the researcher to be involved in activities at the research site (Creswell, 2005). Purposeful watching allowed me to provide detailed descriptions and develop a deeper understanding of participants' experiences (Stringer, 2004). According to Creswell (2005), there are advantages and disadvantages to observation in qualitative research. The advantages include the opportunity to record information as it occurs in a setting. The disadvantages include difficulty in developing a good rapport with the participants.

I used field notes to record my observations. Hubbard and Power (2003) recommend field notes as a way to record important elements of each part of the setting. My field notes reflected both descriptive elements, such as events, activities, and people, as well as reflective elements, such as, personal thoughts, insights, and ideas that emerge. I

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documented my observations and thoughts after an interview or meeting on the same day the interaction occurred. Below is an example of my field notes written at the beginning of the study after a munch and math meeting.

> While we ate and talked, Katy started filling out the vision exercise from the previous week. I handed the vision exercise to the participants last week, and other participants took their time to write their thoughts during the week. She was rushing through it during our meeting. As I watched her rush through each question and answer, I had the feeling like she was filling it out because it was "due." The problem is the way the research is conducted and the expectations that come with it. Journaling may not work with her; I think I will try to do an interview. (Journal Entry, 2/27/05)

Journal writing physically documented the participant's experiences and reflections. I debated over how I was going to ask them to keep a journal. I wanted to encourage honesty and reflection, but I also wanted to have access to each journal entry throughout the research. I chose to type journal questions on separate pieces of paper. I gave each participant a notebook to keep their journal entries and data in throughout the research. Having the journal entries on individual pieces of paper allowed me to quickly make copies of their entries and return it to the participant. I used three types of journal entries to encourage reflection. The first type of journal entry consisted of general questions that helped the participant to reflect on their vision and current reality. These questions can be found in Appendix A.

The second type of journal question looked specifically at emerging themes, my interpretations, and clarification. These entries were individual to each participant and they were written after I had transcribed, coded, and analyzed interviews and previous journal entries. I outlined emerging themes for each participant and asked them whether or not they agreed or disagreed with my interpretation. I also used these questions during interviews to triangulate my data.

The third type of journal entry was used to look at their interpretations of this study and allow them to debrief at the close of each cycle. For example, at the end of the vision cycle, I asked participants in a journal entry "how do you feel about the interviews, observations, and journal entries? Do they treat you with fairness, respect, and dignity?"

These journal entries acted as artifacts to support this study, and they physically documented participant experiences and reflections.

Interviewing was a primary source of data. According to Denzin and Lincoln (1994), the interview is conversation, the art of asking questions and listening. I utilized two types of interviews in this study, formal and informal interviews.

The formal interviews were one-to-one conversations with participants. I initiated each interview by inviting the participant to meet with me outside of the classroom for an interview. I used a calendar to mark the day and time that we were scheduled to meet. I reminded the participants prior to the interview of our meeting through e-mail or personal contact. The interviews lasted for an average of 45 minutes each. I chose different locations to conduct interviews based on availability of the private dining room and convenience for both the participant and myself. The locations of interviews included the cafeteria, a picnic table, an empty classroom, and the private dining room. The private dining room and the empty classroom were the most amenable for the purpose of formal interviews. These locations allowed for the participant and me to talk without interruption, distraction, or noise. Many of the interviews were very personal, and the private atmosphere of the interview site enabled the participant to share their personal reflections and thoughts. I used a digital recorder to record each formal interview. I transcribed each interview within a week, and gave a copy of the raw data was given to the participant involved. I also wrote in my journal after each interview to write my thoughts, reflections, and aspects in the interview that were relevant. The interview questions were both pre-planned questions, like the questions in Appendix A, and improvised based on the direction of the conversation. I spent time between interviews transcribing, coding, and analyzing data, and this helped me focus each interview on looking for clarification and elaboration on points that were missed or overlooked in a previous interview.

I shared the interview data with the participants and encouraged their feedback and thoughts throughout the study. Both of the participants that I interviewed were very interested in reading the raw data. One student commented that she sounded "pathetic" in the interview, while another read it and laughed out loud as she read parts of the interview. In a debriefing session near the end of the study, I asked them whether or not

they felt they had benefited from the research. Both of the participants that completed the study mentioned how reading the transcribed interviews helped them reflect on their lives.

Informal interviews were casual interactions between me and the participants. Most of them took place while we talked or reflected about the research. Many of the informal interviews took place while I sat at my desk and they sat at a table nearby. I did not plan questions, instead, I allowed them to talk to me about the analyzed data, about journal entries, and their reflections associated with the study. After each interview, I wrote down what was said, the atmosphere, and my thoughts. The following are examples of journal entries written after an informal interview.

> Stephanie shared—I think you will see when you read this (journal entry) and through our interviews that I am not at all materialistic. I do not care about the materialistic things. Most of my choices are spiritually based. I am a very spiritual person. (Informal Interview, 2/17/05)

> Isabelle looked at the vision she wrote last week. She pointed at the words she wrote—"afraid of anything," "free", "anything I want", and "not to worry", she said that is what she really wants, to be able to go somewhere and not worry about whether or not she can afford it. (Informal Interview, 2/22/05)

Ethics

Prior to the beginning of this research, I applied to the Human Subjects Committee (HSC) at Florida State University for permission to conduct this study. I submitted my application to Nancy on January 7, 2005 (see appendix. On January 18, the HSC sent me an e-mail request for the interview questions that are in Appendix A. I received a letter in the mail on January 29 informing me that my application would go before the entire committee on February 9. On February 2, 2005 I received an e-mail request for changes to my informed consent. At the committees' request, I added a sentence to my informed consent that says I will keep the identity of the participants confidential to the extent allowed by law. On February 9, I received verbal confirmation that my proposal had been approved by the HSC. I later received a letter confirming their approval.

To uphold the ethics outlined in my HSC application, I explained the research to each participant, my expectations, and the nature of the research prior to asking them to sign an informed consent. I wanted to make sure that they understood their rights and that

their participation was voluntary. Once they agreed to participate, I kept all data in a locked filing cabinet in my office. I also have protected their identities by using pseudonyms in all written and transcribed work. These data will continue to remain confidential. At the end of the study and after approval of this thesis (December 2005), I will keep data in a locked cabinet for five years (2010). At that time, I will destroy all relevant data by shredding documents.

Credibility

For the integrity of the study, I discuss prolonged engagement, persistent observation, triangulation, participant debriefing, diverse case analysis, referential adequacy, and member checks. Prolonged engagement requires sufficient time to achieve a sophisticated understating (Stringer, 2004). I began data collection in February 2005 and completed the process at the end of April 2005. I have chosen this specific period because it is the spring semester, and I am concerned that the students will not want to continue with the research when the semester is over.

I was careful to engage the participants in persistent observation to provide an in-depth picture. Stringer cautions against the difference between conscious collection of data and time in the field (Stringer, 2004). I was concerned about this aspect of the study for the reason that I was researching students that I see every day of the week. I was careful to review the credibility criteria multiple times throughout the research. I interviewed my two participants over nine times each in addition to journal entries and observations.

With these data sources, I was able to use multiple representations of data to clarify meaning, and check assertions. Stringer (2004) maintains that triangulation of data allows for the use of different methods, sources and perspectives to corroborate, elaborate, or illuminate the research problem. In the procedure section, I include multiple data sources to support each research question.

Lincoln and Guba (1985) explain the debriefing process as a way of exposing oneself to a disinterested person for the purpose of exploring and challenging aspects of the inquiry (cited in Stringer, 2004). To debrief participants, I wrote journal entries that allowed for them to comment and reflect on the research process. I also asked each participant in formal interviews questions regarding the research process to make sure

that the procedures and interpretations treated the participants with dignity and respect. I recorded the debriefing process in detail throughout the research.

Diverse case analysis ensures that other interpretations of the data have been fully explored (Stringer, 2004). I did this by reviewing the raw data for interpretations that are contrary to my assertions. I discuss this in the final analysis. Referential adequacy is maintained throughout the study by keeping the language and terminology used by the participants.

Member checking is giving participants' frequent opportunity to review the raw data, the analyzed data, and reports that are produced (Stringer, 2004). This is one of the hallmarks of naturalistic inquiry because it allows for the voice of the participants' to be heard in the research. Throughout the research, I engaged the participants and encouraged their feedback and comments. I did this repeatedly during the research. I invited their feedback by asking them to read raw data, mind maps, preliminary analysis, emerging themes, and assertions. I also checked for clarification in interviews. There were instances where they disagreed with my interpretations and times when they agreed. The following is an example of a reflection that Isabelle made as she read the data and my interpretations. "It sounds like the person that is talking is blaming all these things on her (mother). I feel proud of her" (Formal Interview, 3/17/05). I believe that member checking allowed for the participants to engage in the research process and reflect on their vision and current reality. I note these interactions throughout the research.

Transferability

To contribute to the trustworthiness of the study, Stringer (2004) recommends using thickly detailed descriptions. I have done this by detailing the research process and describing the decisions made throughout.

Dependability

An inquiry audit ensures the dependability of the research (Stringer, 2004). I have kept a journal throughout the data collection, analysis, and writing of this study. I have recorded my thought processes, methods, explanations of how I coded and analyzed data, and the process of writing. I hope to make it clear to the reader why and how I have made the choices inherent in the research

Confirmability

The data collected throughout the research will be available to interested parties for review. I have kept records and artifacts for this purpose.

Procedure

I have previously referred to different cycles of the research process. I view this study as having two distinct types of questions. First, I want to understand how developmental students construct a personal vision, and how it relates to community college. Second, I want to understand how developmental students experience current reality, and how it relates to their personal vision. In designing the procedures for this research, I found it easier to look at the process as having two parts. The first part is trying to understand what their vision is, and fleshing out how each participant constructed that vision. The second part is seeking to understand how they view their reality. The framework for each cycle is based on Senge's (2000) *Schools that Learn.* In this section, I will explain how I initiated the study and the procedures for fleshing out personal vision and current reality.

Initiation of the study

I initiated the study by inviting the students taking my introductory algebra course to a meeting that I called "munch and math." I explained that I was working on my master's degree, and that I would be doing a study on students in developmental mathematics. I also explained that I would offer free pizza, drinks, and cookies for those who were interested in attending. I held the initial meeting on February 9 in the private dining room in the cafeteria.

The private dining room is approximately 400 square feet with 4 round tables that seat up to 8 individuals and four rectangle tables that seat up to 4 individuals. The room is located beside the kitchen and separate from the main dining hall. It has a large bay window that allows natural sunlight to filter in, and three separate entrances. I chose this room because of its availability, access to the students, and food privileges. The majority of the meeting rooms on campus do not allow food or drink. I felt that the casual atmosphere of the private dining room and the free food would allow for a relaxed and non-threatening environment.

Six students attended the initial meeting. I greeted each student when they came into the room, and invited them to have some pizza. The students were seated at two round tables in the middle of the room. When they were all seated and eating, I moved a chair between the two tables and sat down. I described the research by describing what a thesis is. I felt that they may or may not completely understand what a thesis is, and I wanted to make it clear. I started with describing how I feel about teaching developmental students and how I feel it is important to understand their experiences from their perspective. I then described the nature of qualitative research, and that I would be conducting one to one interviews, asking them to write their thoughts in a journal, and that I would be asking them for feedback. When I finished, I explained that their participation was voluntary, that their grade would not be helped or hindered by their choice, and that to protect them I would keep all interviews, journal entries, and other data confidential. I then asked them if they had any questions. One participant asked how long it would last. At that time, I anticipated the study would last the entire semester. A second student seemed concerned about the interview process, and I told her that I would give them the questions prior to the interview, and that I would audio-tape each interview to make sure that I remember what is said. A third student asked how the research would benefit or help other students. My feeling is that the question was about understanding the purpose of the study and its relevance to students like themselves. I answered by saying that I would benefit as a teacher to understand the students in my classroom, which will in turn help them.

After the question and answer session, I asked those who were interested in participating to sign an informed consent. Five of the six students that attended the first meeting showed interest in participating. Four of the participants were women who were returning students with ages ranging from 30 to 36. One participant was a 22 year old male who was returning to school after three years in the military. I gave each the informed consent that was approved by the Human Subjects Committee and asked them to read it, sign, and date it. This thesis will focus on two participants, Isabelle and Stephanie. My reasons for choosing these individuals will be discussed in chapter 4 when I explain my findings.

The secondary stakeholders include interested parties like the coordinator of developmental studies and the head of the mathematics department. They are directly involved with the developmental students on a curricular level as well as a relational level. Before beginning the research, I contacted both the mathematics department head and the director of developmental studies and asked them verbally, as well as in writing permission to conduct the research. I obtained their consent on January 16, 2005. The letter that I wrote is in appendix D.

Vision

The initial question of this study is about how developmental students construct a personal vision. In deciding how to conduct this portion of the research, I wondered how I was going to determine participants' constructions. In this cycle of the research, I felt it was necessary to completely understand the participants' personal vision before I started looking for constructions. I will describe the procedures to understand participants' personal vision, and how I used those data to pursue an understanding how they constructed their personal vision.

After initiating the study, I re-read my prospectus and Senge's (2000) recommendations for creating a result. Both mentioned the need for the participants to reflect on their deepest desires prior to the vision exercise. I chose to give each participant a journal entry titled "creating a result" as part of the reflective exercise. The journal questions started with a broad statement, "imagine achieving a result in your life that you deeply desire", and I then asked three questions, "what does it look like," "what does it feel like," and "what words would you use to describe it?" I explained to each participant that the purpose of this exercise is to dream, and not to worry about whether or not his or her dream is possible or impossible. Within a few days, the participants returned the journal entry to me, and I copied it and gave it back to them. I also read their personal vision and asked them if they had any problem with this part of the exercise. One participant mentioned that she wrote her thoughts down, but she was not sure what I was wanting.

After the initial reflection exercise, I wanted to begin scheduling interviews. I asked each participant if I could interview them. I explained that I would be asking them a series of questions related to their personal vision. I gave them the questions and asked

them to reflect and write their thoughts down prior to the interview. The questions are listed in Appendix A. I felt that it would enhance the interview if they had time to read and think about each question.

Having read the interview questions, the participants at that point seemed engaged in the process of articulating their personal vision. One participant stopped by my office to talk about what she wrote. To each interview, I brought a digital recorder, the participants' journal entry, and their written responses to the questions. I started each interview by asking each participant about his or her journal entry on creating a result. I asked them if they had thought about their vision, and whether or not they would like to add anything or if they felt differently about what they had written. I also asked them if they had any questions or concerns. Three of the participants mentioned that they did not understand the meaning of the word, articulate. I realized at that point that I needed to be careful with wording and explanations. The language of the research was not familiar to the participants.

I transcribed each interview within a week, and returned a copy of the raw data to each participant. I asked them to read it and make any comments that they feel is necessary. I also used the initial interview data to mind map their personal vision. I wanted to see their personal vision displayed in another format, and I felt that the mind map would be a helpful visual. Denzin and Lincoln (2000) refer to mental maps as an alternative way to represent data that is visual but not necessarily hierarchal. I felt this visual representation would help me to understand and stimulate discussion with the participants. After I mind mapped the participants' personal vision, I made a copies and gave it to them. I asked them to look it over and comment on whether or not they feel my interpretation was accurate. This was an interesting aspect of the research process. The participants started to open up at this point to the collaborative nature of this research. One participant took my mind map and changed the organization. I had mind mapped her vision with eight different headings, and she rearranged the map to three main headings, with the rest as support to her main headings. My analysis of this experience will be noted in chapter four.

I wanted to make sure my data were triangulated. Senge (1994) mentions a values checklist as a way to help participants' flesh out their personal vision. I decided to use

his values checklist to add to corroborate or contradict the data that I had collected to that point. I felt that I needed to have multiple data representations, and that the values checklist would either coincide with participants' personal vision or contradict. The checklist had over one-hundred values listed in columns by alphabetical order. I asked the participants to pick ten values. I then asked them to pick five values from their list. We then narrowed it down to three values. I then gave them a journal entry with four questions. I asked them to write what their values mean, how their lives would be different if the values were practiced, if their personal vision reflects the values they chose, and if they are willing to choose a life in which these values are important.

At this point, I felt that I had fleshed out their personal vision, and checked for clarification and noted their feedback, I decided I needed to understand how they constructed their personal vision. I used the mind map to initiate another interview. I based the questions from these interviews on the significant aspects of their personal vision, and they were represented in the mind maps. I wanted to know how they constructed each part of their vision. To seek understanding, I re-read the raw data, both transcribed interviews and journal entries, and wrote my thoughts on their constructions. I then asked each participant to meet with me and discuss my interpretations. I asked them about each component and described my interpretations. I wanted to include them in each part of the research process and check for understanding throughout. I wondered if I was stating the obvious at times.

To look at how their vision fits with community college, I asked them. I asked them in a formal interview, journal entries, and informal interviews. I asked questions like "how does your vision fit with community college," and "what is community college going to bring to your life." Many of the questions from the personal vision exercise addressed community college's purpose in their lives and its impact on their personal vision.

To close this cycle of the research process, I debriefed participants through interviews and journal entries. I wanted to make sure that they were being treated with dignity and respect. I checked my interpretations with them throughout the process, and again during the debriefing process. I also asked participants' if they would add or change anything to make the research process better. The responses were positive. One participant

mentioned that she felt better after talking to me about her vision. Another commented that it was like "therapy."

Current Reality

The purpose of helping developmental students define their current reality is to examine specific aspects of their lives. Looking closely and clearly at current reality can be difficult, and there are many ways to begin (Senge et al., 2000). By this point in the study, a few factors influenced the dynamics of the data collection. First, the field of participants was narrowed from five to two. I will discuss the reasons for this in chapters four and five. Second, I had developed a strong relationship with the remaining participants due to the intense nature of the vision cycle. We were talking everyday, interviewing, and writing in journals and sharing our reflections along the way. I will explain and describe how I collected data to understand participants' experiences of current reality.

I collected data for current reality through observations, journaling, formal and informal interviews. I wrote my observations in my journal. The purpose of the observations was to check whether or not there was trustworthiness and consistency with what was being written and said. An example of one observation was made regarding a participant during a munch and math meeting. "Isabelle seems distracted today. I know that she had to drive her mother to a doctor's appointment and rush to make it to munch and math. I was hoping to talk to her about her vision. I can see she has a lot on her mind".

The primary sources of data for current reality were formal and informal interviews. I initiated the interview process by asking the participants to reflect and write in their journals. I gave them the questions on separate pieces of paper. The questions can be seen in Appendix A. I felt that the reflective process of thinking and writing about current reality would enhance the interviews. At the same time I gave them the journal entry, I scheduled a time with each participant for a formal interview. The interviews were conducted in an empty classroom and a crowded cafeteria. The empty classroom, however, was not without distractions; we were interrupted twice by people checking the room. I knew that this portion of the study would be very personal, and I was concerned that the atmosphere of the interviews would affect what was shared. For this reason, after

I transcribed and coded the journal entries and interviews, I scheduled a second interview with each participant. The questions for the second interview were based on my preliminary analysis of the previous interview and they were focused on specific aspects of their current reality and connecting their current reality with their vision. I asked questions like "what words would you use to describe…your current relationships, your previous job, and your education". I also probed with questions that looked at their current reality from a broader perspective. For example, "describe community college from the following perspectives: your spouse's, your family, your own perspective". I felt that I might gain greater understanding if I could see how other perspectives influenced their perception of current reality. Another aspect of these interviews was the conversational nature of the questions. In both of the second interviews, we started with a conversation that was related to a personal aspect of their lives. For example, in the interview with Stephanie, we talked about her relationship with her mother. This conversation was interesting, in that, I was seeing a connection between her current reality, her vision, and how she constructed her vision. The pieces of the study were beginning to fit together.

After each interview, I transcribed and coded the raw data. I gave each participant the transcribed data and asked them to read and comment on it. I was purposeful in explaining to them each time that I valued their feedback, and that it would be noted throughout the research.

<center>Conclusion</center>

Three questions are significant to this section. Does the research design provide the information necessary to answer the questions? In doing qualitative research, I find the best way to understand the participants' constructions and experiences are to ask them. This is why I have chosen interviews, e-mails, and journal writing to collect data. Is there a clear rationale for the choice of research design/strategy? Being the teacher and the researcher, with the intent to act, I find action research to be the best way to pursue understanding of personal mastery with developmental students. The look-think-act design that Stringer (2004) discusses is part of this cycle. How will you defend trustworthiness? The interpretive nature of this research leads to the question of how will I know if they are/are not fooling me, or if I am/am not fooling myself. Throughout the

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research process, I was keenly aware of the dilemma of trustworthiness. I was careful to write in my journal and make note of connections or disconnections to trustworthiness. Early in the vision cycle, I noticed that some participants seemed excited about the research, while others seemed to be doing it as a favor to me. I wanted to focus on the participants who were personally involved and invested in the process. Some of the indicators of this were spontaneous conversations or informal interviews initiated by the participants. Other indicators include aiding in the data collection by audio-taping the construction of their vision. I was careful to triangulate data to make sure that what was said in an interview was consistent with the observations and journal entries. I also did frequent member checks to seek clarification and feedback. Including the participants in the research process proved to be fulfilling, informative, and meaningful to the study.

CHAPTER FOUR

Data Analysis

Introduction

Look-Think-Act of action research requires the researcher to look carefully at the information, to reflect on that information and act on the findings. This chapter is a reflection on the data that I gathered. I discuss the participants and explain how I analyzed the data. I complete the chapter by discussing my findings.

Participants

This qualitative action research is centered on two developmental students. In the methods section, I described the initiation of the study. I started with five developmental students. In my prospectus, I said that I would like to focus on two students with different backgrounds, preferably a returning student and a student who recently finished high school. I also mentioned that I would like to have a male and a female to provide different points of view. I found, however, that the nature of the qualitative research had a way of selecting the participants for the study that was out of my control. I will mention aspects of the qualitative research that affect selection in chapter five when I discuss my learning. For the purpose of data analysis, I think it is important to explain the natural selection of participants to explain how I chose two participants.

Early in the research process, the five participants seemed eager to participate and "help me out." One participant said, "I am glad to help you out with this, I really admire you and I want to help." I was concerned with this statement because her desire to help me would affect the credibility of the study. I wanted participants who were genuinely involved in the process because of what they would gain from it rather that what it would do for me, their teacher. Three of them seemed to lack the understanding of how much involvement the qualitative study required. For example, one participant referred to an interview as "let's get it over with," and "wow, you are really into this" and with subsequent interviews we scheduled he forgot to show up. I interpreted this as a lack of interest in the research. After the first round of interviews on articulating a personal vision, I found that some showed a continued interest in the research, while others' interest waned. On one occasion, I handed each participant the transcribed interviews, asked for their feedback and gave them the next journal entry. One participant placed the

raw data and the journal entry in her folder and never responded to the journal entry or my invitation for a second interview. On this same occasion, another participant read the raw data, discussed it with me, and asked when we could do another interview. The following are excerpts from my personal journal regarding these interactions.

> I sat down with Stephanie. I explained the type of research, my research questions, and what I wanted from her (journal entries). She seemed very interested. She read through the interviews and commented on the contradiction in the interview about how she is not materialistic, but she will buy expensive sheets for her bed. We laughed out loud about that part of the conversation. She also corrected a portion of an informal interview that I had handed her. (Observation, 3/2/05)

> Isabelle shows genuine interest in the research. She keeps her interview appointments, stops by my office to talk about the research, and like yesterday explained how she would reorganize the mind map. (Observation, 3/12/05)

The following participants are the two who showed a genuine interest in the research. I interpreted their interest by their active participation in the research process. Both were involved in every aspect of the research from interviews and journal entries to conscientious member checks. It is my feeling that their active participation enhances the credibility of the study. I will briefly describe each participant and unique aspects from their backgrounds.

Isabelle. Isabelle is a 33 year old developmental student who is a native of Mexico. Her first language is Spanish and her second language is English. She moved to the United States with her mother fifteen years ago. She crossed the border from Mexico to the United States illegally over eight times. When she was allowed to stay, she put herself in high school in San Diego. She received her high school diploma and married an American. After fourteen years of marriage, she is going through a divorce. She has a seven year old daughter, and they live in a small house with her mother. She works thirty hours a week at a private Catholic school that her daughter attends. In addition to this, she is a full time student at the community college where this research takes place. She is enrolled in developmental mathematics, developmental reading, and developmental English.

Stephanie. Stephanie is a 36 year old developmental student who recently earned her GED from the passport program at the community college. She dropped out of high school to take care of her sick mother when she was 17. She has owned her own business and worked for a major corporation as a systems analyst for eight years prior to starting at the community college. She is married with two children, ages 11 and 13. She lives near her two sisters about one hour from the community college. She is a full time student taking developmental mathematics, anatomy and physiology, anatomy and physiology laboratory, and nutrition.

Analysis

My data sources were formal and informal interviews, observations, and journal entries. My approach to analysis is consistent with my approach to collecting data. I conducted a qualitative action research, and I analyzed the data in a manner consistent with the data I collected. Stringer (2004) says that action research tends to focus on a more phenomenological approach to analysis. With this in mind, I have been careful to preserve participant perspectives by focusing on illuminative experiences as primary units of analysis. I carefully describe how I analyzed the data.

Initial analysis. Primary analysis of data included transcribing audio tapes from formal interviews and typing informal interviews, journal entries, and observations. For each formal interview, I used a digital voice recorder. I downloaded the voice recordings to my computer and transcribed each interview. I typed each word in the conversation and noted when I could not understand or hear what was being said. After transcribing the interviews, I read the raw data and reflected on the conversation. I then gave each participant the transcribed interview and discussed it with them. An example of one of these interactions took place during a weekly Munch and Math session. I handed Stephanie the raw data and we sat together at a table and talked about the interview.

> I talked to her about my interpretation of the interviews—divine inspiration (she agreed) and I mentioned that she seemed hesitant to share a vision that related to anything materialistic. I also asked her about her decision to go to school. She shared with me her feelings on education now and how they have changed within the last six months. She said that if you had asked her six months ago about the value of education, she would have said that it was a waste of time. She said that

she was able to work successfully in the business world without a high school diploma, and the time and energy involved in getting an education would negatively affect her family. She then said that her point of view started to change when she felt compelled to quit her job and find something that gave her more satisfaction (Informal Interview, 3/2/05).

The initial analysis enabled me to listen and read the raw data. The member checking allowed for me to question the participants for clarity, emerging themes, and to probe deeper into topics that were part of each interview. As seen in the previous excerpt it revealed illuminative experiences like her changing views of education, as well.

Secondary analysis. I re-read each interview and underlined recurring words. I then mind mapped the participants' personal vision, their constructions, and how they experience current reality. Denzin and Lincoln (2000) describe mental maps as visual displays of similarities among items, and these items are not necessarily organized hierarchically. My decision to make mind maps was not part of my prospectus, but it seemed to be a natural progression from the raw data to a visual representation of the data. Appendices E and F have examples of the mind maps used during this phase of analysis.

I created four different mind maps and each map was centered on a research question. I wanted to see a physical representation of each question and the data associated so that I could understand what the participants said. Around each main topic were supporting topics. Examples from Isabelle's mind map on her personal vision included supporting topics related to relationships, purpose, and success. Under each supporting topic were emotions or support for that topic. For example, one aspect of Isabelle's personal vision was having a dream job. Under that vision is the supporting topic of wanting security and under that topic was the desire to not be afraid, and the need for peace and tranquility.

It was my intention to clearly understand their personal vision and current reality and the significant experiences associated with each. The mind maps were used to generate questions, member checks, and conversation. The interview questions that were generated from mind maps were relevant to understanding participants' constructions of personal vision and their experiences of current reality. They showed me the aspects of each topic that required elaboration or clarification. They also served as a tool to check

with participants on whether or not my interpretations were accurate. Stringer (2004) explains the process of interpreting events that are significant from the participants' perspectives as a means to building understanding in their terms and giving them voice. The following interaction between Isabelle and me was after I showed her my mind map of her personal vision.

> Isabelle stopped by to talk about the mind map. She rearranged my mind map. I had six supporting topics, and she consolidated it down to three topics. The three topics are her purpose (to help), relationships, and success (which are connected to self-esteem, freedom, and security). What do her changes mean to my interpretations? (Journal entry, 3/11/05)

My mind map is in Appendix E, and Isabelle's changes are represented in Appendix F. The mind maps opened dialogue between me and the participants. They helped me focus on the research questions and reflect on journal and interview questions that would help me dig deeper. I used the visual representation to communicate and analyze the raw data.

Tertiary analysis. Once I understood the participants' personal vision and current reality and I checked my interpretations. I then moved to a third level of analysis. I read, reflected, re-wrote mind maps, and checked. I will explain how themes developed for each research question.

Denzin and Lincoln (2000) refer to themes as constructs that investigators develop before during and after data collection. They also highlight the value of literature as a rich source of in which to develop themes. Stringer (2004) refers to the use of epiphanies or significant events in people's lives as a means of developing themes. I chose to use both of these analysis techniques to develop themes.

I started this phase of analysis by reflecting on the mind maps that I created for each participant. I spent time thinking about the literature that I have read, significant events, and experiences associated with each topic on the mind maps. I wrote my reflections in my personal journal. The following is a journal entry written on March 12.

> Themes from the literature: life change/divorce, divine calling—brought about by dissatisfaction with job (another life change). Could these be related to Maslow's hierarchy of needs? I think that the need for security and safety is very strong for Isabelle, and the need for something meaningful is strong for Stephanie. (Journal entry, 3/12/05)

I made a copy of each mind map and used different color pens to show constructions of each topic in their personal vision. For current reality, I used the colored pens to add in elements like emotion and observations. I then re-read the raw data to see if the constructions and experiences that I had developed were consistent with what was said.

At this point, it was becoming clear the similarities and differences in constructions between the participants. I was also able to see connections to the literature. I then re-wrote the mind maps for personal vision into a mind-map of their constructions of their personal vision. For example, Isabelle was experiencing a significant life change, in that she was going through a divorce. The divorce affected her self-esteem, her sense of autonomy, and her security. Each of these constructions was related to the life change she was experiencing. Stephanie's mind map showed that the need for control affected her vision. Under this topic was emotion associated with a childhood experience, a feeling of powerlessness at her previous job.

I used these mind maps to understand participants' experiences and constructions. I also used them as communication tools. I photocopied each mind map and gave the copy to each participant. I then explained what my research questions were, and what I was trying to understand. With this in mind, I asked them if my interpretations were correct, and if they would like to add anything that it would help me to understand. I checked for understanding by informal interviews where we talked at a table with the mind map in front of us, through journal entries where I stated constructions and asked if they agreed or disagreed, and through formal interviews. Their responses are noted, for example, on March 15, 2005, I asked through a journal entry about the experiences that have influenced their personal vision. Stephanie responded with a simple "yes, I agree" when I asked if the themes that I had were accurate.

Final analysis. "The purpose of analysis in action research is not to identify the facts, or what is actually happening, but to distill or crystallize the data in ways that enable research participants to interpret and make sense out of collected materials" (Stringer, 2004 p. 112). My final analysis is an attempt to distill the data to a form that shows each assumption, theme, and support. In this phase of the analysis, my goal was to make certain that the themes were amply supported and that the data was triangulated.

Denzin and Lincoln (2000) recommend developing a code book, where the codes act as tags to mark off text for later retrieval or indexing. The codes act as values assigned to fixed units. Stringer (2004) recommends dividing the data into units of meaning. That unit of meaning might be a word, a phrase, or a whole sentence. To be consistent with the purpose of action research, I focused this phase of analysis on making sense of the data by keeping the meaning of the data in tact. I explain how I categorized and coded the data.

The previous phases of data analysis were a process of emerging themes and checking with participants for clarification, accuracy, and elaboration. By this point, I felt confident that the themes were accurate. I wanted, however, to check the data to see if they were amply supported and make sure that the themes were triangulated. To do this, I read Stringer (2004) and Denzin and Lincoln (2000) to review and check my data analysis techniques. I decided to create a codebook and begin categorizing my data.

I started by reading the raw data. I had a clear idea of themes that supported each research question. I started with the research question written at the top of each page. Under each question were themes for each participant. For example, the question of how do developmental students experience current reality was written at the top of a page. Under that question, I wrote, "How does Stephanie experience current reality?" Under that, I had four columns. The columns were labeled with themes, like "self," "student," "faith," and "relationships." Under each theme, I wrote words, phrases, and sentences that supported each theme. I used three different colors to represent the different sources of data. For example, I used dark blue for codes found in the formal interviews, pink for codes found in informal interviews, and green for codes found in journal entries, and red for emotions related to each theme. When I reviewed all of the raw data and categorized the codes, I then looked to see if each theme was triangulated. If each theme had significant support and was triangulated, I drew a triangle on the mind map created in the tertiary phase as a physical representation of triangulation. An example of

Debriefing. I did two types of debriefing in this research study. I did participant debriefing, which I described in chapter 3. I also debriefed with Nancy as I was analyzing the data. We talked over the phone about the number of interviews, the participants, the dilemmas of doing this type of research with developmental students,

and literature related to my findings. Being able to discuss the research with someone who has had experience with action research was helpful and it helped me to consider alternative ways of analyzing the data.

Negative case analysis. Both Denzin and Lincoln (2000) and Stringer (2004) refer to the value of negative case analysis for the credibility of research. Denzin and Lincoln (2000) say that once a model starts to take shape, the researcher then looks for negative cases. Cases that either disconfirm or suggest new connections, in which case, a new look at the data is necessary. Early in the research process there were contradictions to what was being said on paper and in interviews. For example, I noticed that Stephanie's desire to become a nurse did not match her passion and desire to educate people on history. When I asked her about the apparent lack of connection between what she was going to school for and what she was passionate about, she revealed a traumatic childhood experience that keeps her from talking in front of people. Stephanie and I talked about this issue multiple times and never quite resolved the contradiction, but came to an understanding of how the traumatic event has impacted her life. In a formal interview on March 15, she said the following in reference to her childhood experience and her avoidance of speaking in public.

> I don't know because I figure you are either one of two people. You are either a great speaker or you are a great writer. And I am satisfied with the fact that I am a great writer. I can express myself in written form, and I don't beat myself up over it. And maybe I avoid things that put me in that situation, it is something that I have to live with. Unless I went on medication, something to that extent, something that I am not willing to do, you know, it's not something that you can overcome easily. It's like once you have been raped by your father is your relationship ever the same? (Formal Interview, 3/15/05)

Up to that point, we were going round and round the contradiction between her passion and her current path. I had repeatedly asked her for clarification and she responded every time. In this interview, my understanding of her decision making process was clear when she likened the experience to being raped. I realized that the contradiction would not be resolved, but our understandings of her constructions were clear.

Findings

Introduction

"The intent of action research is to accomplish common-sense solutions to problems by finding concepts and ideas that make sense to the stakeholders involved" (Stringer, 2004 p. 97). This research study began because of my frustration with retention of developmental students. Prior to this study, I tried different teaching and learning tactics in an effort to engage the learner. I have mentioned my attempts at collaborative learning and involvement with the students in my classes. I realized that I need to go deeper and look for understanding of their experiences and constructions. I have four research questions that have guided this study. Because the research questions are the backbone of this study, I have organized this section around each research question. Under each question I will explain how I define certain words that pertain to or are relevant to the research question. I will then state assumptions in italics, and explain the themes and data that support each assumption. In some cases participants share constructions or experiences, and in other cases there are contrasts. These will be explained in each finding.

Personal Vision

Isabelles' personal vision is to have a dream house and a dream job and strong relationships. Her dream house is one that is in a gated community where she feels safe. Her dream job is one that will bring her success, self-esteem, freedom, and security. Her purpose in life is to help people. She feels that she could help people like herself who are new to the country and need an advocate.

Stephanies' personal vision is to have job satisfaction, early retirement, and to maintain her health. Her purpose in life is to educate people. She is passionate about biblical history and would love to write a provocative book one day that makes people think differently.

How do developmental students construct a personal vision?

Guba and Lincoln (1989) refer to constructions as created realities. Constructions do not exist separate from the persons who create them or hold them and they are likely to

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maintain themselves once formed. Two people can interpret the same facts in different ways, thus their constructions of reality are different even though they had the same experience. For the purpose of this research, I define construction as they way that the participants make sense of the facts. Specifically, I am looking at how they make sense of their personal vision.

Life changes affect how developmental students construct a personal vision. Both Stephanie and Isabelle experienced significant life changes prior to attending community college. Isabelle left her husband of fourteen years and moved near the college to begin working towards a degree. Stephanie left a high paying job four months prior to beginning community college. These significant life changes created a need for autonomy, self-esteem, and security.

The need for autonomy was a construction that both Stephanie and Isabelle shared. For Isabelle, her need for autonomy stems from her experiences with her ex husband and being a minority. Her divorce makes her feel vulnerable, powerless, and out of control.

> I am afraid of um, I don't know if I am afraid of this guy (ex husband). In the beginning I was insecure because I was not a US citizen. See now, I am a US citizen, since 1996. In the beginning it was the block of the language and not being a US citizen. So now I am feeling a little more strong than before, but now I am feeling like um afraid of him. Because even though he is not here, I feel like I am followed or things like that. So I don't want to feel that way. I want to feel free. I want to make a choice to do or do this or do that and I am not going to be worried if they are watching me. See I want to be free (Formal Interview, 2/24/05).

Stephanie, on the other hand, needed autonomy in the form of job satisfaction. In her previous job, she felt cornered.

> The reason that I wrote job satisfaction for my personal vision is because when you work for that company, you have to bend a lot, and you have to do things that are not ethical. Or that they suggest you do things that are unethical, and they work you all kinds of hours until you have nothing left in you. They don't care about your family life, they don't---they are not interested in developing you as a person, you are just a warm body. So to me that doesn't bring job satisfaction. For me, having a job where I am not satisfied at the end of the day is not worth doing, and I don't perform well. I want to make my own decisions in the work force (Formal Interview, 2/23/05).

Both Isabelle and Stephanie shared issues related to self-esteem. Isabelle, for example, expressed a need for friendship, love, and respect. On two occasions, the topic of

relationships was very emotional. During the interviews when we discussed this topic, Isabelle cried. Her feelings of loneliness are powerful. She also has a need for respect. Her desire for success is a reflection of this need. In this quote, Isabelle is describing what it will feel like to have her ideal professional vocation.

> It will make me feel more strong. Like if somebody say something to me, I know where I can say, all these years since I have been here, I have to stand up for myself and I have to defend myself. Somebody say something to me, I have to jump up and say not this because of that, I have to do it always. So probably if I am working in that place, it will make me feel like people cannot hurt me or do things to me. It will make me feel secure, peaceful because I am already there. My self-esteem will be there. All those compliments together. Feelings of being there, and I don't have to be "you know, she was illegal" or "she doesn't know how to speak English". Things like that, I don't' want to put me down (Formal interview, 2/24/05).

Stephanie, on the other hand, had self-esteem issues that were concentrated on her health. Part of her personal vision is related to maintaining her health and keeping her chronic illness at bay. The chronic illness has created weight gain which affects Stephanie's self-image. It did not appear, however, to have a significant impact on other aspects of her personal vision.

Isabelle had a strong need for safety and security which are constructions affecting her personal vision. Her personal vision involved a dream job where she has power, strong relationships, and a dream home in a gated community. Each of these aspects of her personal vision reflects her deep need for safety and security. She described her life many times using words like roller coaster and being at the will of the waves in the ocean (up and down). Her fears are related to protecting and providing for her daughter. She is afraid to lose her daughter to her ex-husband. Similarly, she mentions in journal entries, formal and informal interviews her desire to "not be afraid", and "afraid that he will come and take her daughter." These feelings significantly impact Isabelle's constructions of her personal vision.

Self actualization. Self actualization is the desire to become all that you are capable of becoming (Merriam, & Cafarella, 1999). Both Stephanie and Isabelle expressed a strong desire to fulfill a greater purpose in life and continue their personal development. When asked in an interview about their purpose, neither participant hesitated or struggled with the topic. It was something that they already knew about themselves. In fact, it evoked

passion and reflection in both participants. In the following quote, Stephanie is describing the importance of understanding history.

> I think that I would establish the reason people do the things they do. And maybe why people lay down their life for another, a friend or a brother. You know for another country. We are such a selfish country, we live everyday, we go to work, we buy our things, and yet there are people all over the world that are living in poverty and are dying daily, and you know the AIDS epidemic. No one is educating themselves. (Formal Interview, 2/23/05)

Stephanies' life purpose and development are constructions of her religious faith. She is passionate about biblical history, and focused on maintaining her integrity and morals while working on being more compassionate and less judgmental.

> In bad times I expect to maintain integrity, accountability, and my relationship with God knowing that He will not allow me to be tested beyond what I am able to endure. Perseverance in hard times builds character and loosens your grip on the materialistic things in the world. (Participant Journal Entry, 2/23/05)

Her desire to be all that she can be can be seen in her desire to create. She referred to her life as "an open book" and as "a blank slate" in which she can become whatever she wants. She views her life at this point as something she has the ability to create.

Isabelle, on the other hand, constructs her life purpose and personal development from previous experiences. Her experience as an illegal immigrant, her culture, and family pressure create a struggle between her deepest desires and her responsibilities. Her life purpose, to help people, stems from her experiences as a sixteen year old trying to cross the Mexico/United States border.

> When I crossed the border and I see the people, and how they treat us. I started realizing that these people need help. Because if you are not there, you don't know exactly what is going on. (Formal Interview, 3/10/05)

She refers to her experiences as an immigrant as being "nobody" and the barrier of the language as difficult.

Growing up in Mexico with her family, Isabelle learned that success is highly valued. When I asked her to describe a successful person in Mexico, she described her uncle who owns his own transportation company. "For me he is success, because he has done it for himself, and now his brothers and everybody in the family, they have the business"

(Formal Interview 3/10/05). She describes success as having everything you need, some things you want, and not having to worry.

> In Mexico if you do not have money, you are nobody. Here, if you are from another race, you are nobody. Now because you come from there and mix up the two cultures, that's why I try to…go on top of it. It is like it's pushing me, the way of Mexico and the way of here. So I want to stand up and be a success even though it is not my country, it's not my language. (Formal Interview, 3/10/05)

Isabelle is stretched between the way she was raised, her experiences as an immigrant, and her desire to be a person who is able to help others. Her process of self-actualization is a bricolage of cultures, language, and experience.

How does the vision fit with community college?

At the beginning of this study, my intent for this question was to understand whether or not the participants' vision fit with community college. I wanted to understand whether or not there was continuity between what community college has to offer and what they wanted. Specifically, I wondered whether or not formal education fit with the developmental students' goals. I was using the students in a previous class as a basis for my question. With that being said, I find this question to be one that states the obvious for the participants in this study. To answer this question, I will explain how community college aligns with their vision, and I will highlight the unexpected impact community college has had on Stephanie and Isabelle.

Community college enables developmental students to work towards career goals, which in turn provides them with autonomy, choices, and power. Stephanie is attending community college with a short term goal of becoming a registered nurse (RN), and a long term goals of getting a bachelors in nursing (BSN) and eventually becoming a nurse practitioner. She received her general education diploma (GED) five months ago, and is in her first semester of college. Her vision of early retirement and job satisfaction are in alignment with her purpose for attending community college. Community college will enable her to get the job she feels will give her autonomy and choices.

Isabelle desires autonomy and success. For her community college is a means by which to reach her vision. She is coming from a place of powerlessness and deeply

desires success as a means by which to have power in her life. Formal education will bring her knowledge, social connections, and control in her life.

She views community college as a way to gain control in her life.

> How am I going to get a good job with no education? That is why I put myself in here. To get an education , to get a better life. If everything was ok at home, probably I would be saying…later…later…later (Formal Interview, 3/10/05)

She struggles, however, with the time commitment that community college requires.

> Sometimes I am struggling and the controversy between wanting something right now. And it is taking me time to do it. But if I don't get there I am not going to get what I want. Some days I struggle, and I say it is going to take me years and what for? (Formal Interview, 3/10/05)

For Isabelle community college is not only a means to a dream job or control in her life, it is also a place where she is connected to other people with knowledge.

> Now I circle myself with more people. I am talking with more people, and other people know information and they give it to me, and so now I know more stuff than I know before (Formal Interview, 3/10/05).

Isabelle's vision and her purpose at community college are in alignment. By being with other people, she is exposed to a broader base of knowledge which has already helped her to gain control in her life. In addition to this, she is working steadily towards a job where she can be successful and respected.

Unexpected impact of community college. Developmental students experience transformation and conflict as a result of community college. For example, Stephanie's views of formal education have dramatically changed since beginning college five months ago.

> A year ago my supervisor graduated from this community college with her AA in business. I thought college was a waste of time, especially being employed at that job, because experience is worth more there than education. It wasn't until I left that job that I contemplated going to college to meet my goals. (Participant Journal Entry, 3/8/05)

Her feelings toward education, not only have changed her point of view with respect to the value of education, but it has affected how she sees her children's education.

I now see the importance of passing that (education) on to my children, so that I could create. If I could create anything that it would be a respect for education in them. (Formal Interview, 2/23/05)

The transformation in the way she views the value and the impact of education are some of the positive ways that Community College has affected her point of view as well as her personal vision.

Conflict and confusion are associated with developmental students decision to align their personal vision with formal education. Isabelle and Stephanie have mothers who do not understand the commitment or the value of community college in their lives. For Isabelle, this is a significant issue because she and her mother live together. Her mother does not understand the long term commitment that a degree requires. Throughout the study, Isabelle struggled with what her mother wants her to do and what she wants to do.

She wants me to be able to stand up for myself. She feels like that will be one way to do it. But, I don't know. I understand her point, what she is trying to tell me. But there is only one time that I will be living, and one time that I will be doing what I really want to do. This is what I really want to do. I want to fulfill her dreams, too. She wants me to do something for her to feel successful. She will be able to say "oh my daughter is a lawyer". (Formal Interview, 3/10/05)

Stephanie is surrounded by a very supportive family. She mentioned in one interview that a student in one of her classes commented that she must have a good home life. When Stephanie asked her what she meant, the student said that if she is able to study and concentrate on her school and that she must be supported. Her mother, however, does not understand the commitment that Community College requires. In our conversations, Stephanie commented how she is prepared to tell her mother that school is very important to her.

I tell her that I am trying to go school, I am trying to do something that nobody in this family has ever done. I have already told her that I am not going to let anything interfere. (Formal Interview, 3/15/05)

I found the conflict to be minimal with Stephanie, in that, it does not directly impact her daily commitment to college. Isabelle, however, deals with the conflict regularly. From this perspective, it is a struggle to align her personal vision with community college.

How do developmental students experience current reality?

Experience is a word that has many meanings in our culture. It can be a word that describes our employment background, our learning, a vacation, or even our spirituality. Trying to understand the word creates a dilemma. How do I want to describe the word so that I can understand what I am trying to find? The word is derived from the Latin root, experientia which means the act of trying. For the purpose of this study, I have tried to understand how developmental students experience current reality. More specifically, I want to understand through their words what is happening in their lives. The danger of looking another's experience is that we are using our reflections rather than our immediate reactions to gain insight. In short, we can conceptualize, categorize, or reflect on our experience which alters the actual lived experience (Van Manen, 1990). The purpose of understanding developmental students' current reality is to create understanding for those who read this study and create an understanding for the participants. If they understand where they are, they are more likely to make better choices with where they want to go.

Developmental students experience feelings of being powerless. Merriam Webster (1988) defines power as the ability to act or produce an effect. As I contemplated the participants responses to questions related to their current reality, I was struck by the participants' responses. In this analysis, the participants do not necessarily share the same experiences with being powerless. For example, Isabelle feels powerless in dealing with her instructors, with her ex-husband, and at times with the language. Stephanie, on the other hand, experienced strong feelings of being powerless in her old job, but being in school has given her an opportunity to make choices that move her away from the feeling of being powerless. Both participants, however, struggle with low self-images, which may contribute to their feelings of being powerless.

School has contradictions for Isabelle. From one perspective, she gains power as she continues to educate herself and move towards her vision, and in another perspective she feels powerless with her instructors. She is taking a developmental reading class. We talked about her class on multiple occasions throughout the semester. In the beginning, the class was not a problem, and she was confident that she was doing well. At the

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midterm, March 4, 2005 the teacher sent a report indicating that Isabelle was at risk for failing. Isabelle was surprised and hurt by the teacher's comments about her.

> Sometimes I feel more strong and other times little things damage me like my reading teacher saying "oh, she is struggling." To me I wasn't expecting that from her it is kind of like HMMM. (Formal Interview, 3/18/05)

The teachers comments discouraged Isabelle, and made her feel like there is nothing she can do to pass the class. She expressed her feelings by not wanting to go to her reading class, and completing the work required. It also made her reflect on her purpose in school.

> Yesterday, I was doing the paper and I was writing, and I was thinking, "Do I really want to continue doing this? Do I really want to continue my education?" I can get a job and pay the bills. (Formal Interview, 3/18/05)

After the midterm report, Isabelle resigned to the "fact" that the teacher had already decided that she wouldn't pass. She felt that the reason she did not pass was that the teacher did not value her point of view or way of thinking as valid. She wondered if the teacher did not understand that she was coming from a different culture with a different way of looking at things.

Stephanie's feelings of being powerless were not related to Community College. She felt powerless in her previous job. It was a feeling of being controlled by the people she worked for and the establishment.

> Being in a salaried position, feeling like they own you because they pay you a salary rather than hourly. When you are salary, they dictate your life and your beliefs (Formal Interview, 2/23/05).

Her experiences at her previous job of being powerless led her to make choices in her life that give her a sense of control.

> I think, now, that even the nursing program, I know it is going to be hard, even the classes right now are hard. Anatomy and Physiology is hard, but going through that, and experiencing my old job to extreme that I did, I know that I can do anything now. (Formal Interview, 3/18/05)

Both Stephanie and Isabelle struggle with issues of low self-image. When I asked the question to each participant, both said that they were dreading this part of the study. It was very personal for them to reveal how they feel about themselves. Isabelle

commented that I should ask her on another day, meaning that she did not feel good that day, and her response would reflect that. I believe that this is relevant to their feelings of powerlessness, in that, their feelings of confidence and control stem from their feelings about themselves.

Isabelle describes her self-image as "ugly duckling," and it being "no good." She felt self-image would improve when she was "reaching her dream."

> I guess, you have to be working with yourself, and working on my degree and later I will feel more secure, or you know, but my self-image is no good. (Formal Interview, 3/17/05)

Stephanie describes her self image as "currently working on it." She struggles everyday with feelings that other people are judging her by the way she looks and the things she says.

> I always have this thing in the back of my mind that says people are judging me by the things that I say or how I look. If I go up in front of a group of people, it's like even though it was so long ago, the thoughts come up "you are not going to do the right thing, or you are going to mess up." (Formal Interview, 3/15/05.

Developmental students play multiple roles. Both Stephanie and Isabelle are returning students who are 36 and 33 respectively. Being a college student is not their only responsibility.

Isabelle is a single mother who is the primary provider for her mother and her daughter. She is a full time student who works thirty hours a week as a secretary for a small private school. She feels constant pressure to "play all the roles," meaning that she must act as the father figure and the mother. Her mother helps by working as a housekeeper. Her mother, however, is dependent on Isabelle to translate for her, to drive her to work and doctors appointments. During this study, Isabelle missed class due to doctor's appointments for her mother. On many occasions she left school to take her mother to "get her taxes done" or was late because of taking her mother to work. She also was dealing with immigration and the necessary paperwork to keep her mother in the country. She was frustrated because she felt that she always needed to "stand up for herself".

Stephanie is married with two children. She has a stable home life, and is able to be a full time student. She views her schooling as "job training," and only missed class when

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it involved her health. Due to her chronic illness, she is required to have blood withdrawals every eight weeks. It affects her energy and her mental acuity. She works daily to manage her health and maintain her commitment to college. Her multiple roles do not appear to interfere with her college experience.

How does current reality relate with their personal vision?

   This question is an opportunity look at the relationship between current reality and personal vision. I think of this question as completing the circle. I want to understand whether or not developmental students' experiences with current reality draw them towards their personal vision or away from it. What aspects of their current reality push them towards their personal vision and what aspects pull them away from it?

Alignment of current reality and personal vision facilitates the developmental students ability to live their dreams. Prior to the beginning of this study, both participants independently enrolled in community college as a means to reach their personal goals. Their journey to community college was the first step towards their personal vision.

For Stephanie, that meant she needed to take the first step by getting her GED.   Her desire for control in her job situation created the need for an education. She started aligning her current reality with her personal vision long before this study began. Her supportive and stable family life, her feeling of control in her life, and her focus on school are the factors that support her in her quest for something greater. She is encouraged by her husband and children to do whatever she wants to do. It is encouraging for her to set an example for her children, as well.

> They (Stephanie's family) are my cheering team and they are counting on me to finish college. (Journal Entry, 3/26/05)

For Isabelle, her need for control in her personal life led her to community college. She has the support of her mother and her daughter. Her mother sees community college as a means by which to be successful and powerful.

> I come from a family they really want success. My family knows they need to be educated to do something. (Formal Interview, 3/10/05)

> She (Isabelle's mother) doesn't want me to get hurt—like "do this and you will be a success and you will have all the people around you like lawyers and you will

be in that circle, better than being a teacher or in criminology". (Formal Interview, 3/10/05)

Isabelle's daughter sees her mother's experience in college as "cool." Isabelle sees her college experience as an opportunity to "plant a seed in the ground." It will encourage her daughter to see education as important and valuable.

Lack of alignment between current reality and personal vision pulls developmental students farther away from their goals. Stephanie and Isabelle experience conflicts and challenges that affect their self-confidence and focus. They both offer unique perspectives towards the obstacles that they encounter as they chase their dreams.

For Isabelle it is the emotions associated with fear. She is challenged daily on his commitment to school. In our conversations, she mentioned being afraid. In her initial journal entry, she was writing about her personal vision, what it would look like, and she said "not to be afraid of anything." She is afraid of losing her daughter, of being manipulated by her ex-husband, and of not having enough money to feed her family. She feels like it is going to take her too long to finish school and is conflicted because she feels education is the way to reach her vision.

> Sometimes I am struggle everyday and I want to go back. And I say it is going to take me years and what for? And this situation is passing. I feel like I am working in a line. So if I am moving in the direction, if I move that way I will fall down, and if I go that way I do not know what will happen. (Formal Interview, 3/10/05).

As a contrast, Stephanie does not struggle with her basic need for safety, but she struggles with her confidence in her abilities. She commented that she did not focus on school when she was younger because of her mother's health. She did not attend school regularly and dropped out at the age of 17. She feels internal pressure to challenge thoughts of self-doubt and external pressure of not letting her family down.

> I am constantly bombarded in my thoughts that I can't do this. There is an enemy out there that just wreaks havoc with my mind. If I get a—especially with Anatomy and Physiology there is this thought in the back of my mind. If you don't pull that grade up you are going to fail, and you are going to fail your family, and you are not going to go into the program (nursing), and you know it is like a constant battle with "just shut up, I am going to do it!"(Formal Interview, 3/15/05)

Conclusion

Denzin and Lincoln (1994) describe the work of a qualitative researcher as somebody who is a "bricoleur." A bricoleur is a "jack of all trades" or a "maker of quilts," somebody who is able to use a variety of strategies to communicate their message. The process of data analysis was a time of reflection, reading, and communicating. I felt compelled to tell the story of the participants in a way that treats them with respect and dignity. At times I felt like I was making a quilt, piecing together the data and working with preliminary themes to create a picture. Engaging the participants in the analysis process was a meaningful and thought provoking. When I handed the rough draft of this chapter to Stephanie, she read it and smiled. I asked her if she agreed or disagreed, she commented that it was an accurate interpretation and that she was looking forward to reading more. To me, that was the true test of whether or not what I said is what they meant. The analysis is the area of the research that projects a judgment. I wondered what Stephanie and Isabelle would think as I wrote about my analysis and findings.

To summarize my findings, I found that developmental students' experiences have a significant impact on their construction of a personal vision and how they view current reality. Their experiences in previous jobs or relationships color their career choices and deepest desires. My intent was to understand their experiences and their vision and look for a relationship. I found that there were unexpected benefits that are part of the journey. The participants' point of view towards education and how it impacts their families is a powerful example of transformation.

CHAPTER FIVE

Discussion

Introduction

The intent for this study is to inform my own practice of teaching by understanding the students in my classroom. I spent the entire semester engaged in the research and with the participants in this study. I learned about them and about myself in the process. In writing this report, I have been able to reflect on the research and the participants. In this chapter, I discuss the participants who did not complete the study, why they stopped participating, discuss the research findings, and reflect on what I learned as a result.

Discussion of All Participants

I started the study with five participants. As the study progressed, it narrowed to two. I want to discuss the dilemmas of qualitative research, why they stopped participating, and my final participant debrief.

The dilemmas of qualitative research have to do with my lack of experience, the assumptions that I made along the way, and participant understandings. In preparing for this research study, I was frequently asked about my topic. I fumbled through my answers trying to gauge the understanding of the audience asking the question. I relate my problem to an understanding of the language. I tried to answer the questions in a manner that made sense to the audience asking the question. For example, when I defended my prospectus, I used the language that is used throughout this paper. When I described the research to potential participants I fumbled with my words and descriptions. I found that the language became a barrier at some points within the study. In one week, three participants asked the question about the meaning of the word "articulate," and one said she did not turn in the journal entry because she "didn't understand some of the questions" (personal communication, 4/15/05). From that point, I realized that I needed to be careful to explain the meaning of words or use other words that are used more commonly. For example, in a journal entry for current reality, I dropped the word current reality and wrote an explanation. I wrote, "This journal entry is about where you are right now. The last few weeks have focused on your dreams and your vision. This part of the research is about where you are right now. Please be very honest".

The time commitment involved in qualitative research was problematic for some participants. At the beginning of the study the five participants were eager to begin, and as the study progressed interest waned. I found it difficult to schedule interviews with some participants and one participant scheduled three different interviews and forgot each time. My journal entries show my frustration, "I had an interview scheduled with Lane today, and he did not show up. I am so disappointed. I had a feeling when he didn't write our appointment down" (Journal Entry, 2/18/05). Stephanie and Isabelle seemed to enjoy research process. When I asked them Isabelle said "sometimes I feel better after we talk," and Stephanie said it was like "going to therapy" (Personal communication 3/11/05).

The interview process was new to all of the participants involved. For the initial interviews, I reminded them that I would be audiotaping their responses. I said that it is easier for me to remember what they said when I audiotape it. The responses that I had to the audiotaping varied from joking, "are you from the FBI or something?" to unsure "I don't like the way I sound on the voice recorder". In the subsequent interviews, the uneasy feelings toward being audiotaped were not noticeable. When I transcribed the interviews, Lane commented that "wow, you are really into this." This comment made me think that he did not understand the nature of qualitative research. Other participants made comments about the transcribed interviews like "I wish I didn't say 'um' and 'you know' so much" (Journal Entry, 4/18/05).

For the participants that did not continue with the research, I asked each one why they stopped. Ashley said she "got too busy with school." Kristy said she lost her journal entry and then forgot. Lane had an interesting response to my question. He said, "I have been here almost everyday, you could have asked me for an interview on any of those days, and I would have helped you out" (Journal Entry, 4/4/05). I think he was surprised that the research study was completed, and he did not realize that I had been working on it throughout the semester. His response made me realize that he was not aware that he stopped participating. As I reflected on his response, I realize that I concluded that he was not interested in participating when he did not show up for a scheduled interview and forgot to turn in journal entries. I was hesitant to place too much pressure on participants

because I play a dual role as their teacher and as a researcher. I wanted a study that reflected the credibility criteria and respect for the participants.

Discussion of Research Findings

In my conversation with Nancy Davis, she mentioned the value of looking at the literature with respect to what I found. This led me to look at the various development theories and to contemplate their meaning and my research. I first want to discuss the contrast between Stephanie and Isabelle. They share commonalities like developmental mathematics, low income status, age, and motherhood. They do not share, however, their state of being, native cultures or language, and their constructions are very different.

Power is a significant theme in the participants' constructions of personal vision and their experiences of current reality. How has the lack of power colored their decisions and choices and how will the possession of power change their ways of thinking? Stephanie and Isabelle share the common experience of living life as women. Their ways of thinking and being are in some ways unique to being females. Belenky, Clinchy, Goldberger and Tarule (1986) report on 135 women and identify five different ways women construct knowledge. The five categories range from silence to constructed knowledge. Their work suggests that knowledge is something that an individual constructs and the result is individual empowerment, of gaining a voice, and the ability to effect change in their personal lives.

I have known Isabelle for a year and a half, and I have had the opportunity to watch her gain her voice. She is working on starting a club with the Spanish teacher for native speakers. She wants to create a community of people who are like her and can help each other as they navigate through their college experiences. Her constructions of her personal vision are a result of finding her voice. I have known Stephanie for five months, and from her reflections she is having a similar experience. She quit a job that had insurance and a salary because of the way she felt while working there. Finding their voice and making changes in their lives that reflect their voice tie these two women together.

The tangible results of these differences can be seen in their college experience. Isabelle is taking three developmental courses, reading, mathematics, and English. McCusker (1999) cites that students enrolled in three or more developmental courses

have a 24% chance of earning a bachelors degree. The need for remedial reading appears to be the most serious barrier to degree completion (NCES, 2004). It is an in indicator of comprehensive literacy problems (McCusker, 1999). Isabelle failed remedial reading twice, and will take it a third time in the fall of 2005. I asked her why she was able to persist when others quit, and she said she is compelled to move forward because she is afraid of letting her ex-husband have control. This feeling of fear was prevalent in every part of this research study.

Maslow (1970) proposed a theory of human motivation based on a hierarchy of needs. At the lowest level are physiological needs, such as hunger and thirst, the next level is safety needs, followed by the need for belonging, esteem, and self-actualization. Isabelle is clearly in need of feeling safe and protected. It is the motivating force behind her quest for an education and personal vision. She showed strong signs of the need for belonging, as well. She is isolated from family, for the exception of her mother and daughter, due to her multiple roles she does not have time for socialization. On three occasions, she showed emotion when the topic of relationships was discussed. She shared her need for "a real friend," somebody who she can trust and will be there for her. When I analyzed the data, I had the strong sense that both Isabelle and Stephanie shared a desire for self-actualization. For Isabelle she was very clear about her purpose in life being to help others. According to Maslow's (1970) theory, however, it is not possible to be a self-actualizing person if your lower needs have not been met. This aspect makes me wonder how to explain their desire to do something greater that would benefit others while still needing the basics like safety and security.

Stephanie was a stark contrast to Isabelle, in that, she did not express any need for safety or security. Her stable home life and supportive family supplies her with a sense of safety and security and the love and belongingness. Although, one can argue that her personal vision of wanting to save for an early retirement is an expression of the need for security. I believe that Stephanie is functioning on the level of esteem needs, which is the reason she is pursuing a college education. She is the first in her family to complete even a semester of college. She still has a sister who has not completed her GED, and she feels proud to be the first in her family to make this accomplishment. In one interview, she mentioned that her parents will be so proud of her and in other interactions she

mentioned that her family is "rooting for her." Stephanie, like Isabelle, showed signs of the need for self-actualization in her personal vision. She also referred to her desire to create. In the tangible form, she desires to create a book that will provoke people to think differently, and a less tangible form, she referred to her life as something that she has the ability to create.

The difference between Stephanie and Isabelle is evident in their school performance. Stephanie is enrolled in only one developmental course, mathematics. She took three science courses in addition to her mathematics in her first semester. She made A's and B's in her classes and is making progress towards a degree in nursing. Research supports her as having a significant chance of reaching her goal of bachelor's degree. McCusker cites that 47% of the students enrolled in only one developmental course earned bachelors degrees.

I believe that the differences in their constructions of personal vision and their experiences with current reality are directly related to their needs. The most interesting aspect of these findings is the impact that Community College has on these first generation college students. Both Stephanie and Isabelle mentioned they wish they had entered college earlier and they discussed the changes they were making in with their children. Stephanie said she used to let them do their homework on the bus, and as long as they got it done that was fine with her. She now says she makes them sit at the kitchen table and do their homework, and she checks it. They mentioned how their children notice how and when they study. Isabelle's daughter brags at her school about her mommy going to college. The impact of their education is not only personal it is affecting the next generation.

My Learning

 I want to discuss what I learned about my research questions, the process of collecting data, and its relevance to developmental students.

Collecting data. In the formative stages of writing my proposal I struggled to define my research questions. I understood the issue and the problem very well; I did not know how to word my questions very well. As a result, I found my research questions to be redundant. I felt this as I reflected on each phase of the research process, and when I started to analyze the data. The data seemed to overlap to the point that there was no

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clear distinction between the questions. Specifically, the questions that were supporting personal vision and current reality were troublesome because they did not provide anything significant to the study. I think that I should have written them as supporting questions, or used them as key points to consider when framing my research questions.

The process of collecting the data was a learning opportunity. I feel that my interviewing techniques needed refinement and improvement. I listened carefully to participants, but I did not frame my responses as questions. I tended to respond in a conversational manner that showed understanding. In some respects this was helpful, in that, I was able to relate with the participants and set them at ease. In other respects, I feel that if I had answered with more questions that I would have been able to probe deeper.

One of my frustrations with the collection of the data was my inexperience with the new digital audio recorder. I practiced before my first interview with the recorder, and I felt confident that it would work. At the beginning of the first interview, the participant was nervous about the interview. I did not want to make her uncomfortable. I casually pressed the record button (so I thought), laid it on the table, and conducted the interview. When I got home, there was no record of the interview. I felt frustrated that I did not double check at some point during the interview to make sure it was working. I had to reschedule the interview. The second interview covered the same questions, but did not have the same feeling or answers. I should have had a secondary tape recorder as a back up.

Connections to Science

How does this thesis relate to science teaching and learning? The two participants in this study show a glimpse into the diversity of developmental students. Of the five participants, three were taking mathematics as a pre-requisite for the nursing program in addition to science courses like anatomy and physiology. Verhovsek (2003) connects the health careers to mathematics and science. "Health careers require substantial training with a strong mathematics and science background, and many programs are finding it increasingly difficult to attract people because of their fear of mathematics" (Verhovsek, 2003, p. 1). In the fall of 2005, I will be teaching environmental science and general biology for non-science majors. I will have students in my classes who are taking

developmental mathematics. An understanding on my part of developmental students and their constructions of a personal vision and experiences of current reality will enhance my teaching and hopefully their learning.

Implications for Science Education

How will this study inform science education? The students in this study are students that take developmental mathematics and science courses simultaneously. They are adults who are returning to education after a long hiatus from formal learning. Their experiences bring a unique dynamic to every classroom. I believe that this study highlights the importance of recognizing the adult learner for their ability to engage in transformative learning, reflection, and meaningful discourse. Science educators encourage and develop these qualities by creating learning opportunities that build upon the experiences of their adult learners. Educators can engage the learner in self-directed inquiry, and encourage reflection and discourse in small groups. The life experiences of the adult learner coupled with inquiry bring a depth to learning in the science classroom that benefit the individual, as well as the group. Maslow (1968) states "there is a basic human impulse to grow toward health, full humanness, self-actualization, or perfection" (p. 117). The science classroom can be a place where the developmental adult learner is engaged in the process of growth, learning, and transformation.

APPENDIX A

INTERVIEW QUESTIONS

Step 1: Creating a result

- Imagine achieving a result in your life that you deeply desire

- Imagine you live where you most wish to live or have relationships you most wish to have

- Imagine accepting this fully into your life

- Describe in writing the experience you have imagined. What does it look like? What does it feel like? What words would you use to describe it?

Step 2: Reflecting on the first vision component

- Did you articulate a vision that is close to what you actually want?

- If it was hard to do….consider and reflect on the reasons that might inhibit your vision

Step 3: Describing your personal vision

- If you could be exactly the kind of person you wanted what would your qualities be? (*Self Image)*

- What material things would you like to own? (*Tangibles)*

- What is your ideal living environment? (*Home)*

- What is your desire for health, fitness, athletics, and anything to do with your body? (*Health)*

- What types of relationships would you like to have with friends, family, and others? (*Relationships)*

- What is your ideal professional or vocational situation? (*work)*

- What would you like to create in the arena of individual learning, travel, reading, or other activities? *(personal pursuits)*

- What is your vision for the community or society you live in? (*community)*

- What else, in any other arena of your life, would you like to create? (other)

- Imagine that your life has a unique purpose—fulfilled through what you do, your interrelationships, and the way you live. Describe that purpose, as another reflection of your aspirations

Step 4: Expanding and Clarifying your vision
- If I could have it now, would I take it?
- Assume I have it now. What does it bring me? (this question is a probing question that is used after each answer—it's purpose is to reveal the purpose behind the vision)

Current Reality
- What is my current self-image? (*Self image)*
- What is the real state of my tangible possessions? (*tangibles)*
- Where do I live now? (*Home)*
- What is the state of my health, fitness, and anything else to do with my body? (*Health)*
- What is my current state in terms of marriage, romantic relationships, and friendship? (*relationships)*
- What is my professional or vocational situation? (*work)*
- What is my current reality regarding individual learning, travel, reading, and other activities? (*pursuits)*
- What kind of community do I live in and belong? (*community)*
- What are any other important aspects of current reality? (other)
- What is current reality now, in terms of my life purpose and deepest aspirations? (*Life purpose).*

APPENDIX B

THESIS TIMELINE

January 7: Submit HSC application

January 10: Approval of prospectus by Nancy

January 12: First Munch and Math meeting/Meeting with Dr. Shaw for review of prospectus

January 16: Request permission from Head of Developmental Studies

January 18: HSC requests interview questions

January 31: Defend Prospectus

February 2: HSC requests changes to informed consent

February 9: HSC approval

February 10: Introduce research to participants/informed consent

February 15-April 10:   data collection

April 13: Begin writing/continue member checks/ final participant debriefing

May 2005: Submit first draft of thesis to Nancy

Summer 2005: Defend Thesis/Graduate

APPENDIX C

Human Subjects Committee Application and Informed Consent

1. *Give a complete description of your research procedures as they relate to the use of human subjects.*

This is a qualitative action research study. I will be collecting data through interviews, journals, e-mails, and observations. The interviews will be audio taped, transcribed, and coded. I plan to use two types of interviews to understand the participants experience, they will be formal (using specific questions), and informal (un-scripted). I will seek consent from the participant prior to each interview, and remind them that they may terminate the interview at any time during the process. After the interview, I will transcribe the audiotapes, and allow the participants to read the raw data and make any comments. I will note their comments in my research. When the raw data has been coded and analyzed, I will ask the participants to read the analysis and make comments. I will note their comments in my research.   The journals and e-mails will be a collection of the participant's reflections on goals, current experiences. Prior to requesting their participation in writing reflections, I will remind them that they do not have to answer the questions, and if they choose not to there will be no consequences. The observations will be kept by the researcher in a journal and used to support or contradict data collected from interviews and reflections. The journal entries that I (the researcher) keep will be kept in a locked cabinet with other research artifacts.

2. *Have the risks involved been minimized and are they reasonable in relation to anticipated benefits of the research, if any, to the subjects and the importance of the knowledge that may reasonable be expected to result?*

The possible benefits to this study include understanding or clarification of the participants' goals and their relationship to the community college. In addition to this, the time spent with other students and the teacher/researcher may help them

build social connections that are important for retention. The possible risks might be a sense of vulnerability that the participants feel when they share their goals and look at their current reality in relation to their goals. To minimize risk, I will keep their journals, interviews, and e-mails confidential. I will also provide an outside person, Kendra Kizziah (850) 769-1551 to be available for the participants should they decide to withdraw from the study, or discuss aspects of the study with someone other than the researcher.

3. *Describe procedures to be used to obtain informed consent.*

I believe the subjects of research have the right to be informed that they are being researched, and they have the right to know about the nature of the research. I will invite all of the students from my introductory algebra course, as well as the students from other developmental math classes to a lunchtime meeting. I will tell them that I am a graduate student who is doing research for a thesis. I will describe the nature of the thesis, the time commitment, and the data collection procedures. When the meeting is over, I will invite those who would like to participate to meet again the following week. At that meeting, I will ask them to sign an informed consent.

(A) Who will be obtaining informed consent?

The primary stakeholders in this study are developmental college students who are taking developmental mathematics. Their ages vary, and both genders are invited to participate in the study. The participants who will be signing the informed consent are adults.

(B) When will the subjects be asked to participate and sign the consent form?

In January 2005, I will submit a request to the Human Subjects Committee for approval. After approval has been granted, I will invite the potential participants to hear about the research (February 2005). After this meeting, I will invite students who are interested in participating to meet with me and sign the consent form (February 2005).

(C) In using children, how will their assent be obtained?

Children will not be participants in this study.

4. *Describe how potential subjects for the research project will be recruited.*

Potential subjects will be recruited according to their willingness to participate and whether or not they are representative of the developmental student population. This means that they fit two criteria, they are first generation college students and they show financial need. For this study, financial need is defined by students who are awarded Pell grants or receive financial aid to attend college. First generation college students are defined by neither parent having a college degree. I am hoping that the students who choose to participate will be part of Student Support Services (SSS). SSS is a federally funded grant program that provides free tutoring, counseling, advising, and small scholarships for students who are first generation and low income. The description of low income that I stated earlier is the criteria that SSS uses to accept students into the program. I am a part-time mathematics-learning manager in this program. This means that I have direct contact with over 100 developmental students that fit the criteria.

To recruit participants, I will make a general invite the students that I teach and tutor to a meeting during the lunch hour. I have reserved a private room attached to the cafeteria. The atmosphere is casual and relaxed.

5. *Will confidentiality of all subjects be maintained? How will this be accomplished? Please also specify what will be done with all audio and/or visual recordings, if applicable, pictures and personal documentation of subjects both during and after completion of the research.*

The names of individuals, places, and relevant data will be covered by the use of pseudonyms to protect the subjects' confidentiality. During the research, data, such as audio tapes, journal entries, and transcribed interviews, will be kept in a locked filing cabinet during the data collection phase of the research. The e-mail that I receive during the data collection process is protected by a password that only I have access to. All of this data will be destroyed upon completion of the requirements for thesis defense. I will shred all transcripts, journal entries, and paper artifacts. The audio tapes will be physically broken and cut and thrown into the trashcan. The e-mail artifacts will be deleted from my in box, and my trash bin.

6. *Is the research area controversial and is there a possibility your project will generate public concern?*

The research area is not controversial, and I do not believe that it will generate public concern.

7. *Describe the procedure to be used for subject debriefing at the end of the project. If you do not intend to provide debriefing, please explain.*

The participants will have an opportunity to debrief with a neutral party during and after the research. This person is a developmental counselor who is familiar with the research and the students involved. She is available to the participants and is aware that they may withdraw from the study at any time. Her name is Kendra Kizziah, and she can be reached at (850) 769-1551. In addition to this, I (the researcher) will check for understanding and include their voice in the thesis write up. I will do this throughout the research, as I transcribe code, look for themes, and develop assertions. I will use this to make sure that what is being said in the writing is a true representation of what they meant. At the end of the study, the participants will be given a copy of the analysis, and their comments will be carefully noted.

Informed Consent Form

UNDERSTANDING DEVELOPMENTAL STUDENTS CONSTRUCTIONS OF PERSONAL VISION AND EXPERIENCES WITH COMMUNITY COLLEGE

I am a graduate student at Florida State University, Panama City. I am under the direction of Nancy Davis in the Department of Middle and Secondary Education. I am conducting a research study to fulfill the thesis requirements toward my Masters Degree program of study.

The purpose of the study is to understand how developmental math students develop goals, and how their goals relate to community college. I believe that a person who knows what they want to do is more likely to be committed to an education. I want to help students create goals that fit their own lives and perspectives. I also want to help students make choices that fit with their goals.

The benefits of participating in this research are personal. You will have the opportunity to develop and personalize your goals in a way that matters to you. To help me understand, I will ask you to participate by answering questions in person, through e-mails, and short journal entries. The interviews will be audio taped so that I can remember what is said. I will do this throughout the Spring Semester 2005.

Your participation in this is voluntary. You can withdraw from the study at any time without consequences or penalties. If you choose to participate, your interviews and journal entries will be kept anonymous. I will not use your name in the final paper.

If you have any questions or concerns, you can contact Nancy Davis at (850) 644-7804 or see Kendra Kizziah at 769-1551.

I have read and understand this form.

_____   _____
(Subject)   (Date)

_____
(Witness)

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Vice President for the Office of Research at (850) 644-8633.

APPENDIX D

Cheryl Flax-Hyman
Director of Developmental Studies

Dear Cheryl,

I am requesting permission to conduct a qualitative research study that is in partial fulfillment of the requirements for the degree of Master of Science.

The qualitative study is an action research that will look for understanding of how developmental students construct personal vision and how their vision fits with community college. I believe that an education is more than the acquisition of skills. It is a journey of courage, learning, development, and transformation. The significance of this study lies in the hope that helping students to develop and clarify their vision will make a positive difference in their lives.

The methodology that I plan to use is action research. Action research is a process of systematic inquiry, where the purpose is to provide educational practitioners with new knowledge and understanding, enabling them to improve educational practice or resolve problems. The methods of collecting data include formal and informal interviews, journal writings, e-mails, observation, and field notes. The primary stakeholders are the developmental math students that choose to participate in the study. I will make a general invitation to the students in my MAT 0024 class to hear about the study. For those that are interested in participating, I will ask them to read and sign an informed consent. A copy of the informed consent will be attached to this request. Their participation is voluntary and participants may withdraw from the study at any time. I have asked Kendra Kizziah to act as a neutral party who will be available for the participants should they decide to withdrawal.

I am committed to upholding the ethical standards that respect the integrity of the individuals involved. I have applied to the Human Subjects Committee at The Florida State University for permission to conduct this study. In addition to this, I will protect the participants' identities by using pseudonyms in all written and transcribed work. All of the data will be kept confidential and stored in a locked cabinet. At the end of the study and after approval of this thesis (December 2005), I will destroy all relevant data by shredding documents.
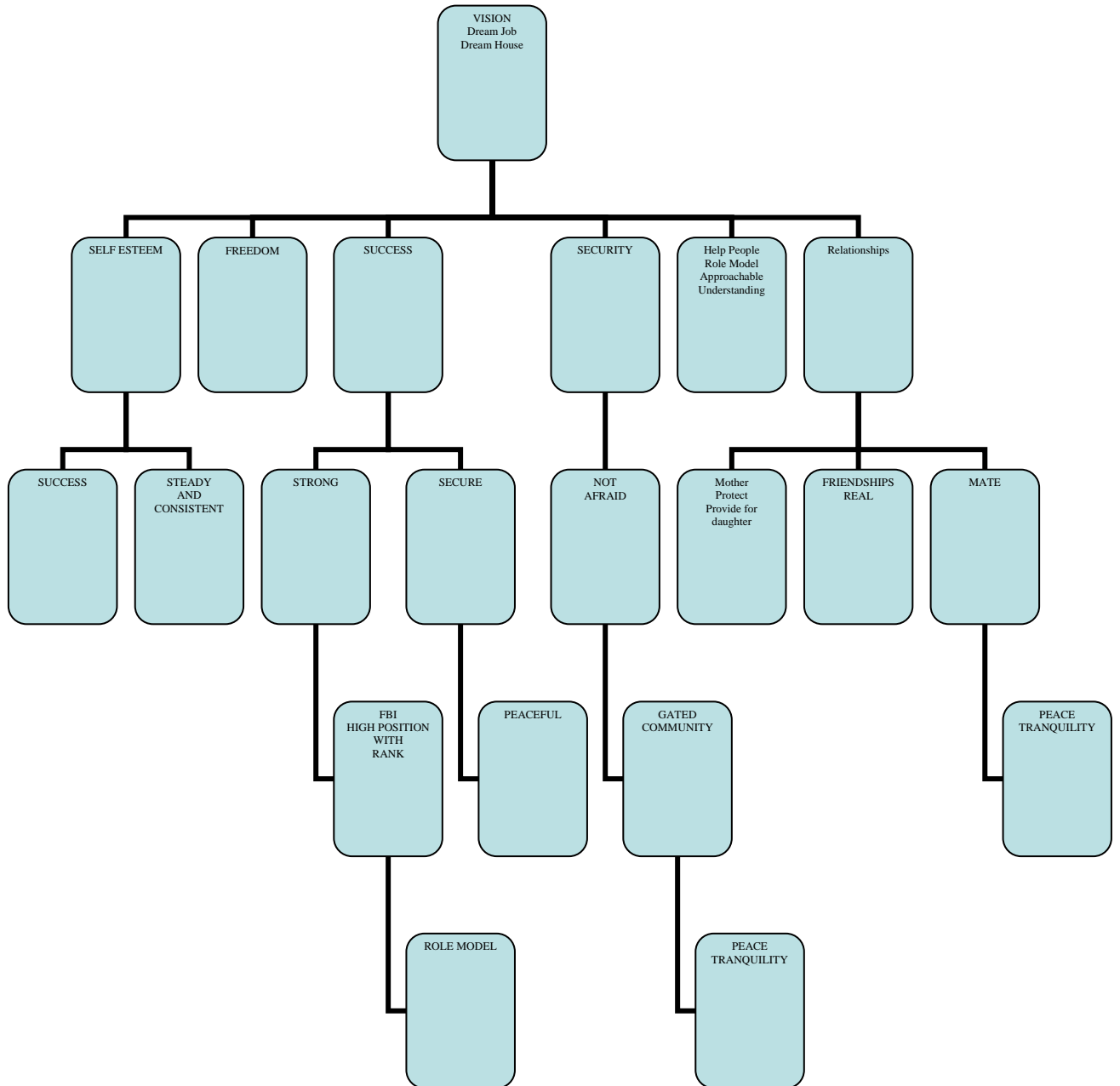
If you have any questions regarding the integrity or validity of this research, please contact me at (850) 233-4831 or my advisor, Dr. Nancy Davis, at (850) 644-7804. I appreciate your time and consideration of this request.

Sincerely,

Kelley Hodges
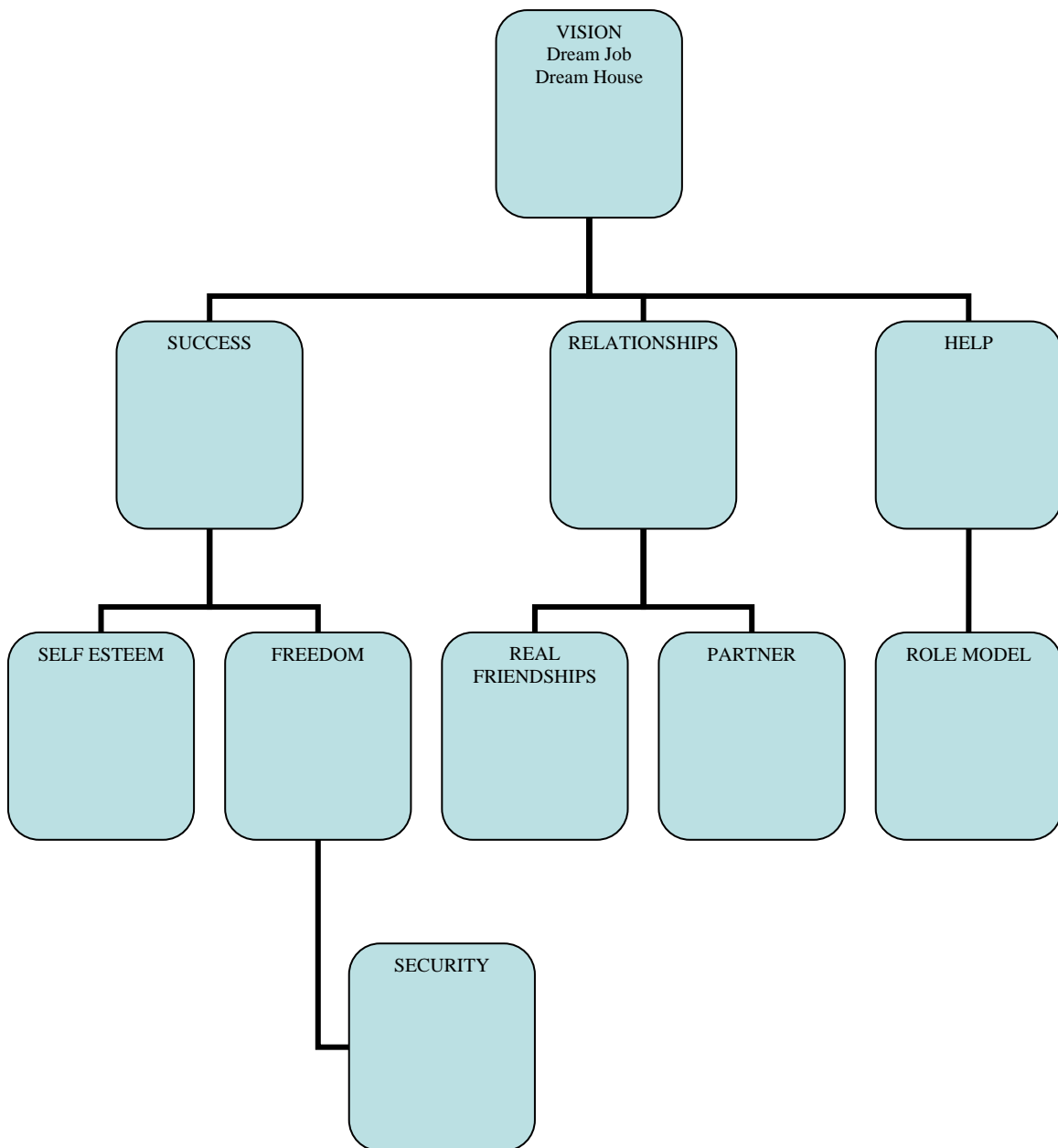*Mathematics Skills Learning Manager/Adjunct instructor*

APPENDIX E

My mind map of Isabelle's personal vision:

VISION
Dream Job
Dream House

SELF ESTEEM

FREEDOM

SUCCESS

SECURITY

Help People
Role Model
Approachable
Understanding

Relationships

SUCCESS

STEADY
AND
CONSISTENT

STRONG

SECURE

NOT
AFRAID

Mother
Protect
Provide for
daughter

FRIENDSHIPS
REAL

MATE

FBI
HIGH POSITION
WITH
RANK

PEACEFUL

GATED
COMMUNITY

PEACE
TRANQUILITY

ROLE MODEL

PEACE
TRANQUILITY

APPENDIX F

Isabelle's mind map of her personal vision:

VISION
Dream Job
Dream House

SUCCESS

RELATIONSHIPS

HELP

SELF ESTEEM

FREEDOM

REAL
FRIENDSHIPS

PARTNER

ROLE MODEL

SECURITY

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BIOGRAPHICAL SKETCH

I was born and raised in southern California. I attended the University of California, San Diego and graduated in 1992 with a bachelors of science in Animal Physiology and a minor in history. I continued my education at Old Dominion University in Norfolk, Virginia. At Old Dominion University, I earned a teaching credential in biology for grades 9-12. I taught tenth grade biology at Cape Henry Collegiate School in Virginia Beach for three years. My husband was in the Navy at the time, and we moved from Virginia Beach, VA to Panama City Beach, Florida. We have lived in Panama City Beach for nine years, and love the beach. I have been teaching developmental mathematics at the local community college for four years. With the completion of this thesis, I will have a Masters degree in science education. This degree will allow me to teach environmental science and biology at the community college.