NONTRADITIONAL STUDENTS IN COMMUNITY COLLEGES AND THE MODEL OF
COLLEGE OUTCOMES FOR ADULTS

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The purpose of this study was to examine three components of Donaldson and Graham's (1999) model of college outcomes for adults: (a) Prior Experience & Personal Biographies, (b) the Connecting Classroom, and (c) Life-World Environment, and to assess their application to traditional and nontraditional students in community colleges in both technical and nontechnical courses.

The study sample was comprised of 311 community college students enrolled in technical and nontechnical courses during fall 2005. The researcher developed a survey instrument based on the three model components through a review of the literature. Demographic data collected were utilized to classify students into a technical or nontechnical grouping as well as four classifications of traditionalism: (a) traditional, (b) minimally nontraditional, (c) moderately nontraditional, and (d) highly traditional.

This study found that nontraditional students vary from traditional students in regards to the three model constructs. A post hoc descriptive discriminate analysis determined that the Life-World Environment component contributed the most to group differences with the minimally nontraditional group scoring the highest on this construct.

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CHAPTER 1

INTRODUCTION

Background/Significance of the Study

At the end of the 20th century and beginning of the 21st, higher education has evolved into a multifaceted, complex system of institutions designed to serve a variety of consumers. In 1999-2000, twenty-seven percent of students in higher education were traditional, 28% highly nontraditional, 28% moderately nontraditional, and 17% considered minimally nontraditional (U.S. Department of Education [USDE], 2002).

According to the American Association of Community Colleges (AACC, 2004), community college enrollment stands at 10.4 million nationwide, with 5.4 million students attending credit courses and 5 million attending noncredit courses. A total of 46% of all U.S. undergraduates attend community colleges; 63% of these are part-time students, and 37% are enrolled in a full-time capacity. Community colleges award more than 450,000 associate degrees annually, along with nearly 200,000 two-year certificates. The average age of a community college student is 29 (AACC, 2004).

The number of nontraditional students seeking an education in 2-year public institutions has steadily increased, along with the number of colleges. During the 10-year period from 1990 to 2000, two-year institutions grew from 968 to 1,068, with 89% of students possessing at least one nontraditional student trait (Horn, 1996; USDE, 2004). Nontraditional students are more likely to attend a 2-year institution than traditional students (39%). In fact, the higher the number of nontraditional traits a student possesses, the more likely he or she is to choose a 2-year institution. Among the population of

highly nontraditional students in college, 64% attend a 2-year public institution (USDE, 2002).

A steady rise of adults or nontraditional students seeking services from the industry has precipitated investigatory research into several areas such as the effect of meaningful involvement in the college environment (Kuh, 1993; Pascarella & Terenzini, 1991), the effects of college on the academic and intellectual development of adult students (Graham, 1998), motivation for differences between adult and younger students (Wolfgang & Dowling, 1981), adult meaning making in the classroom (Kasworm, 1997, 2003), and the metacognitive differences between traditional age and nontraditional-age college students (Justice & Dornan, 2001).

Despite the increase in nontraditional students in U.S. institutions of higher learning, most academic programs are built upon traditional student models. Admissions and progressions are formulated with the traditional student in mind (Kasworm, 1990), and students' success in the learning process is largely based upon grades (Pascarella & Terenzini, 1991). Models were developed to formulate required remediation, prerequisites, and access to fields of study but were created out of the traditional student experience and the assumption that the student can fully participate in the academic and social life of the institution (Kasworm & Pike, 1994).

In view of the changing educational scene, several educational researchers have questioned the foundations of our models of student success in higher education. For example, in Kuh's (1992) review of Pascarella and Terenzini's (1991) article concerning how college affects students, he warned that with only one sixth of today's undergraduate students being of traditional age, faculty and administrators at 2-year colleges and

metropolitan institutions should be cautious about generalizing research findings and implications to their audiences.

Although research has probed the relationship between the nontraditional student and higher education in several areas, no refereed studies were found that used the lens of the community college setting to examine the differences between traditional and nontraditional students in technical and nontechnical credit and noncredit coursework within the framework of Donaldson and Graham's (1999) model of college outcomes for adults.

Theoretical Framework

Donaldson and Graham's (1999) model of college outcomes for adults proposed a framework to examine and assess the key elements affecting the learning of undergraduate nontraditional students. This model sought to explain the nature of the undergraduate experience for adults by taking into consideration the complex nature of the lives of the older student.

The model (see Figure 1) examines the relationships among six major elements related to adults' undergraduate collegiate experiences: (a) Prior Experience & Personal Biographies, (b) Psychosocial and Value Orientations, (c) Adult's Cognition, (d) the Connecting Classroom, (e) the Life-World Environment, and (f) the Outcomes.

Prior Experience & Personal Biographies consists of personal biographies and other influences on the knowledge structures of adult cognition, including those related to self, education, and the classroom. Prior Experience sets the stage for how adults will experience, evaluate, and use their surroundings to help make meaning of their experiences in college (Donaldson & Graham, 1999).

Figure 1. Donaldson and Graham's model of college outcomes for adults.

Note. Figure provided by Donaldson and reprinted with permission.

Psychosocial and Value Orientations are those orientating frameworks such as motivation, self-confidence, and value system. These are the various social conditions, the values, and the psychological motivations that influence adults' abilities to learn and remain in college (Donaldson & Graham, 1999).

Adult Cognition includes the declarative, procedural, and self-regulating knowledge structures and processes. These are the knowledge structures and learning processes that adults bring to college, along with experiences in class, experiences out of class, and their ability or struggle to connect their academic world with the real world. The extent to which adults are successful in accomplishing this influences the value of their college experience (Donaldson & Graham, 1999).

The *Connecting Classroom* is the central avenue for social engagement and for negotiating meaning for learning. Adults use the classroom to define the separation between academic and life-world knowledge structures (schemata). They use academic knowledge structures to illuminate and elaborate existing life-world structures and transform both real-world and academic knowledge structures into new, integrative structures and meaning. For nontraditional students, the classroom defines the college experience (Kasworm, 1997). The classroom serves as the pivotal hinge with adults utilizing their various roles in life such as student, worker, citizen, and family member to make meaning of their college experience (Kasworm, 1997; Donaldson & Graham, 1999).

The *Life-World Environment* encompasses current work, family, and community situations and settings or the different roles and contexts in which adults work and live. Adults have out-of-class social settings that support their entrance or return to higher

education; individuals in these settings include family members, coworkers, supervisors, and community members. These levels of support can detract from or enhance the elements of the psychosocial and value orientations component when adults engage in collegiate experiences (Donaldson & Graham, 1999).

The *Outcomes* sought from the educational process vary in adults. They differentiate between learning that is required to pass a test, increases their knowledge of the world, can be applied directly at work, can be applied to their families or other life situations, or can be used for the benefit of society (Donaldson & Graham, 1999).

Justice and Dornan (2001) studied the Adult Cognition component of the model, exploring the metacognitive differences between traditional and nontraditional students and examining the aspects of metacognition and motivation that distinguish groups learning processes. The researchers utilized the Study Activity Survey, Form R (SAS-R), a self-report measure that includes strategies consistent with comprehension-focused and assessment learning approaches to examine the strategy use, motivations to achieve, and memory abilities of a group of undergraduate students.

Purpose of the Study

The purpose of this study was to examine three components of Donaldson and Graham's (1999) model of college outcomes for adults: (a) Prior Experience & Personal Biographies, (b) the Connecting Classroom, and (c) Life-World Environment, and to assess their application to traditional and nontraditional students in community colleges in both technical and nontechnical courses.

Hypotheses

- Ho1. There is no statistically significant main effect between nontraditional and traditional students in community college courses, as measured by the components of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.
- Ho2. There is no statistically significant main effect between technical and nontechnical students in community college courses, as measured by the components Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.
- Ho3. There is no statistically significant interaction between traditional and nontraditional students and technical and nontechnical students in community college courses, as measured by the components of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.

Limitations

Participants in this study varied in age, gender, race, educational level, academic ability, socioeconomic status, life experience, work experience, and motivation. Thus, the ability to generalize this study's findings is limited.

One criticism of the model of college outcomes for adults is its homogenous treatment of adult students. This criticism has not been published in the literature, but was one which Donaldson brought to the attention of this researcher in personal communication (J. F. Donaldson, personal communication, February 5, 2005).

Delimitations

This study was limited to samples of convenience collected from day and evening classes at Collin County Community College. The Adult Cognition component of the model was examined by Justice and Dornan in 2001. This study focused only on three additional model components: Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Environment.

Definition of Terms

A *traditional student* is defined as one who, upon completing high school, immediately enrolls full-time in college. This traditional student is dependent upon his or her parents for financial support and usually does not work during the school year. Full-time traditional students have the ability to immerse themselves in college life and devote their time and efforts to their studies.

The definition of a *nontraditional student* varies. This study utilized Horn's (1996) classification strata, which defined a nontraditional student as an individual who, at a minimum, possesses one of the following characteristics: (a) has delayed enrollment following high school graduation, (b) is a part-time student for at least a part of the academic year, (c) works 35 hours or more per week while enrolled, (d) is considered financially independent under financial aid qualification guidelines, and (e) is a de facto single parent. Horn (1996) delineated nontraditional status as minimally nontraditional (possesses only one characteristic), moderately nontraditional (possesses two or three characteristics), and highly nontraditional (possesses four or more).

For the purpose of this study, *a community college* was a public or private 2-year institution which grants Associate Degrees and provides noncredit training and certifications.

This study defined a *technical course* as one which prepares the student to enter the workforce upon graduation. Typically, these classes are those taken in the pursuit of an Associate of Applied Science degree or a technology certification.

This study defined a *nontechnical course* as one which is part of the natural sciences, mathematics, arts, social sciences, or humanities curricula. Typically these classes are taken as part of a general education requirement for all Associate Degrees or in pursuit of an Associate of Arts or an Associate of Science degree.

Summary

The landscape of higher education continues to grow and evolve. The undergraduate population of 1999 was 72% larger than it was in 1970. In 1999, of the undergraduate populations at 4-year colleges, 39% were enrolled part-time versus 28% in 1970. At 2-year institutions, 44% of undergraduates were part-timers as opposed to 31% in 1970 (USDE, 2002).

Today's private and public colleges and universities serve a broad range of traditional and nontraditional students. However, from 1999 to 2000, only 27% of undergraduates met the definition of a traditional student (USDE, 2002). Of all undergraduate college students, 73% are considered in some way nontraditional. These are the students that hold full-time jobs, have family responsibilities, and do not typically have external financial support for their studies (USDE, 2002). Despite these trends, most academic programs are built upon traditional student models.

Chapter 2 contains a short review of the literature in the areas of nontraditional students, community colleges, and technical and nontechnical curricula, as well as a discussion of the two studies that have previously examined components of the model of college outcomes for adults.

CHAPTER 2

LITERATURE REVIEW

Introduction

This chapter includes the following sections: (a) Traditional Versus Nontraditional Students, (b) Community Colleges, (c) Model of College Outcomes for Adults, and (e) Summary. This chapter does not include an overview of adult learning theory or a section on the derivation of the model. Further information on the origin and model derivation is found in Donaldson and Graham (1999) and Donaldson, Graham, Kasworm, and Dirkx (1999).

Traditional Versus Nontraditional Students

Past research concerning traditional undergraduates in higher education was predominately based in “historical perspectives and beliefs of a traditional student profile” (Kasworm, 1990, p. 345), and represented the undergraduate as an on-campus, full-time residential student focused only on his or her academic pursuits (Kasworm, 1990). Initial research into the differences between traditional and nontraditional students began in the aftermath of World War II (WWII) with the first influx of veterans returning from service.

The 1944 the Serviceman’s Readjustment Act (now commonly referred to as the GI Bill) provided veterans with up to 4 years of education or training assistance, including tuition, books, fees, supplies, and a subsistence allowance. According to the Veterans Administration (VA), approximately 7.8 million World War II veterans used the GI Bill for education or training purposes, or about one half of those eligible. These

included 2.2 million college-level trainees, 3.5 million who trained in other schools, 690,000 farm trainees, and 1.4 million on-job trainees (VA, 2000).

With this post-war surge of nontraditional students, researchers began to study and evaluate this new group of learners in comparison to traditional college attendees (Kasworm, 1990). In 1948, Garnezy and Crose published their comparison of matched groups of veteran and nonveteran freshman at the University of Iowa. The Garnezy and Crose study along with Pierson's (1948) examinations of age versus academic success, were among the early attempts to examine these differences in the student population. These initial studies focused on the age of the undergraduate as the major factor in predicting college success (Kasworm, 1990).

Research in this area has proliferated, and today's literature contains many studies that dissect, examine, and contrast traditional and nontraditional students in higher education. Leaving the age criterion studies behind, researchers have identified several factors that affect nontraditional students, including involvement, schema, academic success, learning styles, academic and intellectual development, motivations, personal and academic adjustment, and perceptions of effective teaching.

Pascarella and Terenzini (1991) examined the effect of meaningful involvement in the college environment. Darkenwald and Novak (1997) studied the effect of older students' presence in the classroom on academic performance in both community college and university settings and found that, regardless of age, those enrolled in predominately adult populated classes earned higher grades.

Several researchers have examined the role of the adult's schema and academic success in college (Kasworm, 1997; Meriam and Caffarella, 1991, 1999), finding that

adults integrate the new information with previous knowledge and other life experiences to make connections or to learn the subject matter. Therefore, adults engage in a deeper, more comprehensive type of learning than younger undergraduates (Hughes & Graham, 1991; Kasworm, 1997). Nontraditional students use metacognitive knowledge and abilities to adopt a comprehension-approach to their studies and succeed in an institution that may not be designed to accommodate the adult's real-world demands (Donaldson & Graham, 1999).

Traditional and nontraditional students also differ in learning styles. In their 1992 study, Sheehan, McMenamin, and McDevitt found “statistically significant differences between traditional and nontraditional students in 4 out of 5 andragogy/pedagogy dimensions: concept of the learner, the learner's experience, orientation to learning, and motivation to learn” (p. 488).

In researching the effects of college on the academic and intellectual development of adult students, Graham (1998) suggested that colleges that build an integrated environment connecting learning, personal development, and out-of-class experiences can precipitate positive influences on nontraditional students. In comparing the responses of traditional and nontraditional students to the ACT College Outcomes Survey, Graham found that adults reported higher levels of development and greater satisfaction with the educational climate than their younger peers.

Fujita-Stark's (1996) study of the motivations and characteristics of adults examined the factor stability and construct validity of Boshier's Educational Participation Scale (EPS) as a tool to define the salient differences in the motivations for participation of students in both technical and nontechnical noncredit continuing

education classes. Fujita-Stark found that the EPS provided a tool for understanding why adults attending a 4-year institution participated in continuing education as well as how their motivations varied.

Chartrand (1990) developed and tested a causal model to test theoretical concepts related to the personal and academic adjustment of nontraditional students. The study found that self-evaluation and commitment to being a student had a direct effect on student role congruence and, in turn, a direct effect on academic performance and personal distress. The study suggested that commitment and focus on the role of being a student is more appropriate for nontraditional students than involvement in student activities. The variables that influence good student incongruence also appear to influence the personal and academic adjustment of students.

Adult college students' perceptions of effective teaching were analyzed by triangulating three studies and comparing the triangulated research with current literature on traditional students (Donaldson, Flannery, & Ross-Gordon, 1993). The triangulation found that the six most frequently listed attributes of effective teachers---being knowledgeable, showing concern for student learning, presenting material clearly, being motivational, emphasizing the relevance of the class material, and being enthusiastic---were consistent with those in current research comparing adults and traditional students.

Richardson and King (1998) provided an in-depth review of literature aimed at debunking several myths about the adult student. The literature review included the areas of study skills, age-related deficits in intellectual capacities, and the capacity of adults to benefit from higher education.

Community Colleges

Leaders in higher education, community, and industry continue to study and debate every facet of the community college as an academic institution. The questions examined often focus on the mission of the community college and whether it should function as a remediation or college-prep program; its function as an inexpensive alternative to immediate enrollment in a 4-year institution; and its role as a vocational training entity.

In their Faces of the Future survey, the AACC queried approximately 150,000 credit and noncredit students from more than 300 institutions to examine the lives and experiences of community college students (VanDerLinden, 2002). In their findings the AACC reported six clusters of students who share similar reasons for enrolling in a community college: (a) skills upgrade for career advancement, (b) career preparation, (c) major life change, (d) personal enrichment, (e) transfer only, and (f) no defined reason (VanDerLinden, 2002). The community college has been described as “the most democratic of all post-secondary educational institutions” providing open-door admissions, remedial classes for under prepared students, and because of its offering of academic, vocational, and life-long learning (McLeod, 2002, p. 20).

Community colleges are committed to providing both basic academic education and more applied forms of training (Carnevale & Desrochers, 2001). There is a need to meet the requirements of local business and industry as well as provide educational and academic enhancement (McLeod, 2002). The community itself often dictates college offerings as well as the local and national mandates of the community college system.

Although the vocational credentialing system in the United States is labyrinthine (Carnevale & Desrochers, 2001), the community college has emerged as the primary provider of noncredit and credit certificates and certifications. Today's community colleges are "at the center of the skills validation industry because they provide and validate sought-after new skills while offering academic credentials" (p. 33).

Model of College Outcomes for Adults

Donaldson and Graham's (1999) model of college outcomes for adults proposed a comprehensive model to put into context adults' experiences in college. The model takes into consideration the adult's preexisting conditions and motives, cognition, classroom engagement, influences of real-life experience, and the outcomes that they observe and experience as a result of college experiences (Donaldson et al. 1999). The model "draws on the work of Kasworm (1995; 1997), Kasworm and Blowers (1994), and several others (e.g. Kuh, 1993; Cupp, 1991; Graham and Donaldson (1996) who investigated adults' experiences and outcomes from undergraduate education" (Donaldson et al., 1999). The model was presented to "offer a framework for discussion and as a guide for future research on adult learners" (Donaldson & Graham, 1999, p. 26).

In 2001 Justice and Dornan examined the Adult Cognition component of the model of college outcomes for adults by investigating those aspects of metacognition and motivation that distinguish adults in higher education from traditional-age students. The study's participants were 95 undergraduate psychology students from a state-supported university in the southeastern United States who were, for the most part, enrolled in introductory classes. The volunteers were given a 76-item self-report instrument (SAS-R) of routine study behaviors developed by Christopoulos, Rohwer, and Thomas (1987),

along with the Motivated Strategies for Learning Questionnaire (MSLQ) (Garcia & Pintrich, 1996) and the Inventory of Memory Experience (IME) (Herrman & Neisser, 1978). Participants were instructed to answer the questionnaires in regard to their current class.

Justice and Dornan (2001) found that traditional-age and nontraditional-age students in the study were similar in motivation to achieve and reported study behaviors. “Levels of test anxiety, self-efficacy, reported strategy use and self regulation reported on the MSLQ did not differ significantly across age groups” (p. 245). The exception to this was with older female students, who reported more inherent motivation than the traditional-age students or the nontraditional-age male students. Results from the SAS-R found that nontraditional-age students utilized “two higher-level cognitive study strategies: hyperprocessing and generation of constructive information” (p. 245), supporting previous work by Christopoulos et al. (1987). Both traditional-age and nontraditional-age students reported similar memory abilities on the IME (p. 246), but no significant difference in course performance due to age was found.

The Justice and Dornan (2001) study indicated that the learning process of nontraditional-age students does differ from traditional-age students in that adults appear to experience changes in their metacognitive awareness of study strategies as they age. Adults reported an increased use of two higher level cognitive strategies; however, the use of these strategies did not relate to class performance. Additionally, the strategies that were related to performance in traditional-age students were unrelated for the nontraditional.

In 2004 Webb utilized path factor analysis to test the model of college outcomes for adults along with Henry and Basile's (1994) Decision Framework for Students. Webb gathered data from students who enrolled and completed ANLU 1100 Basics of Patient Care at East Tennessee State University. The purpose of the study was to compare demographic characteristics between students who continued to participate in postsecondary education and those who did not after completing ANLU 1100,; "to test and possibly extend Henry and Basile's (1994) framework and to test and possibly extend Donaldson and Graham's (1999) model" (p. 130).

Webb (2004) found that males with prior degrees were more likely to continue their education than the female participants. Being a single or divorced participant with low family responsibilities and a higher socioeconomic status also appeared to play a factor in the ability (or desire) to continue (p. 131). She also found that the Donaldson and Graham (1999) model "did not effectively reflect the model for the population of the present study regarding educational outcomes" defined in this study as self-confidence, increased academic skills, and expanded work abilities (p. 131). Instead, Webb found that the life-world environment and "psychological-value orientations" were the factors "most directly and strongly" affected (p. 131) and that

academic institutions can improve student outcomes by relating learning to the adults' life experiences, providing more courses that effectively prepare adult students to re-enter the academic environment, and by improving methods of contact and communication that allows adult students to feel a sense of belonging in the educational environment. (p. 136)

Summary

This chapter provided a short review of literature in the areas of traditional versus nontraditional students, and community colleges, as well as a discussion of the two studies that have previously examined components of the model of college outcomes for adults. Chapter 3, Methodology, describes the process and steps taken in this study. It presents an Overview and sections on population, sample, the instrument, data collection, treatment of the data, and a summary.

CHAPTER 3

METHODOLOGY

Overview

The purpose of this study was to examine three components of the model of college outcomes for adults -- Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Environment -- and assess their application to traditional and nontraditional students in community colleges in both technical and nontechnical courses of study. This chapter contains the following sections: (a) Population, (b) Sample, (c) Instrument, (d) Data Collection, and (e) Treatment of the Data. The chapter concludes with a summary.

Population

The populations for this study were traditional and nontraditional students currently enrolled in technical and nontechnical courses in the Collin County Community College District (CCCCD). CCCCDD is comprised of six campuses in Collin County, Texas, with a 2004 total enrollment of 40,069 in both credit and non credit classes (Collin County Community College District [CCCCD], 2005).

Collin County Community College District is a metropolitan institution similar in composition and academic mission to the Tarrant County College District, located in the same North Texas geographic area. Table 1 provides a comparison of the two institutions as well as a comparison to national statistics from the AACC in regards to gender, average age, and type of enrollment. CCCCDD was selected for the study due to its curricula, mission, administration interest and support of the project, its convenient location, and its ability to provide access to the number of students required.

Table 1
Community College Composition Comparison

Population	CCCCD	TCCD	National
Gender			
Female	57.5%	58.2%	58%
Male	42.5%	41.8%	42%
Average age	25.7	25.8	29
Full-time students	37.8%	38.1%	38%
Part-time students	62.2%	61.9%	62%

Note. Sources for data are AACC, 2004; CCCCCD, 2005; TCCD, 2004.

Sample

The study utilized a sample of convenience (n=311). The target number of complete responses was a combination of 300 traditional, nontraditional technical, and nontechnical students. Utilizing the experience of the Institutional Research Office (based on a 33% return rate observed in the annual CCCCCD Student Survey), the total pool of participants was set at 1,000.

Lorena Fernandez, a research associate at the CCCCCD Institutional Research Office served as the institutional contact and provided the researcher with the sample used to collect the data. To develop the sample, the institutional contact used a combination of classes that would provide equal numbers of transfer/track students (students who will transfer to 4-year institutions and students who will go to work upon degree completion); traditional/nontraditional students; and technical/nontechnical students.

The institutional contact followed a detailed process to draw a sample from day, night, and weekend classes offered in Fall 2005, with starting dates of September 9 or earlier. The following were excluded from the sample: (a) lab sections, (b) developmental courses, (c) cooperative education courses, (d) clinical sections, (e) distance education sections, and (f) sections offered at locations other than Spring Creek, Preston Ridge, Central Park, and Courtyard campuses

The institutional contact split the remaining sections into two groups: technical/workforce courses and transfer (nontechnical) courses. Each of these two groups was further dichotomized into two groups, daytime (class begins before 5 p.m.) weekday or weekend (independent of time) courses or nighttime (class begins after 5 p.m.) weekday or weekend (independent of time). This process resulted in four subgroups. She then drew a random sample within each of the four subgroups. The goal was to develop a sample containing 250 participants in each of the subgroups. The resulting samples were slightly modified if required to meet the 250 group member goal.

Instrument

The researcher developed a survey instrument to collect student responses to a series of questions (items) based on the key constructs of the model in the areas of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Environment as identified by of Donaldson and Graham (1999). The initial instrument contained 48 items found in the literature concerning the model concepts and 22 items designed to collect demographic and other information used to classify participants as technical/nontechnical and traditional/nontraditional (n=70). The instrument utilized a 5-point Likert scale of 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) as well as fill-in-the

blank, yes/no, true/false, and non-applicable responses. This survey version was then utilized in the content validity exercise.

Each item was evaluated for content validity by a panel of experts. The researcher, with input from faculty, identified seven experts in the fields of adult education or training and development to participate in this process.

The researcher printed all items designed to measure the three model components on sheets of paper with adequate spacing between each to allow her to cut the items into strips and repeated the process to create seven sets of items cut into strips. Items related to demographics and participant classifications were discarded. The researcher placed one set of strips in a large brown envelope. The researcher obtained seven red envelopes, seven blue envelopes, seven yellow envelopes, seven orange envelopes, and seven green envelopes large enough to contain the cut strips. Blue envelopes were labeled as Prior Experience & Personal Biographies, red as Connecting Classroom, yellow as Life-World Environment, orange as Does Not Fit, and green as Needs to Be Added.

The researcher assembled seven sets of item strips and colored envelopes. Each set was placed inside a brown addressed envelope along with a set of instructions and a description of the model components. Each expert was asked to read the item and place the strip in the envelope where he or she felt the item “fit.” The instructions contained a timeline for accomplishing the task as well as a contact telephone number and email for questions. These packages were hand delivered, mailed or sent via express delivery to each identified expert.

The researcher contacted each expert via phone or email several times to ensure return of the packages. The researcher opened each package upon its return and tabulated the results. Those items that did not receive a majority of votes were discarded (n=5).

The final instrument (n=65) used in the study contained 43 items aligned to one of the three components (see Table 2) as well as 22 items used to measure demographics and participant's classification as traditional/nontraditional and technical/nontechnical (see Appendix B).

Table 2

Initial Model Components and Items

Model component	Items assigned
Prior Experience & Personal Biography	3,14,15,17,18,20,21,22,24,28,29,31,32 N=13
The Connecting Classroom	1,2,4,5,6,7,8,9,10,11,12,13,16,19,23,25, 26,27,30,33 N=20
Life World Environment	34,35,36,37,38,39,40,41,42,43 N=10

Institutional Review Board

Following the guidelines provided by the University of North Texas (UNT) Institutional Review Board (IRB), the research developed a consent form to provide each study participant with information concerning study purpose, description, procedures, and confidentiality. This form described the research subject's rights as well as time required to complete the survey, risks associated with participation, and contact information for the researcher and the committee chair. This proposed document was submitted with the

IRB application on-line via the UNT IRB Web site for review and approval (see Appendix A).

Data Collection

The researcher met with representatives from the CCCD Institutional Research Department as well as Thom D. Chesney, Vice President of Academic Affairs to discuss the proposed study and develop a strategy for execution. Lorena Fernandez was assigned to act as institutional contact and assist the researcher in dispensing and collecting the surveys. This team decided to proceed with data collection in the fall semester of 2005 since, through the experience of CCCC staff, the composition of summer classes are not representative of the student population in fall and spring.

The researcher then met with the institutional contact to finalize the distribution process and timeline. It was agreed that, in addition to the UNT Institutional Review Board Research Consent Form, each participant would receive a copy of a letter from the vice president of academic affairs explaining the purpose and importance of the study. The researcher was asked to provide input to this letter which was forwarded to the vice president for his input and final approval. 1000 copies of the letter were printed on CCCCD letter head to be attached to each survey (see Appendix B).

The institutional contact created two sets of labeled envelopes (one for sending out the surveys and one for returning). Each set of labels contained the name of the instructor, class and section number, and number of students enrolled.

The researcher provided the institutional contact with 1,000 copies of the finalized surveys and 1,000 copies of the approved UNT Institutional Review Board Research Consent Form. The institutional contact placed the required number of surveys and

letters in each labeled out-going envelope as well as the appropriate return envelope. The packages were sent via intercampus mail to each of the chosen instructors for administration.

Classes were given 2 weeks to complete and return the survey packages to the Institutional Research Department. The institutional contact and the researcher spoke on the telephone or communicated daily regarding the status of the study returns. The institutional contact logged all returns on the tracking spreadsheet.

At the end of the 2-week time frame, the researcher retrieved all returned packages from the institutional contact, opened the envelopes, and counted the number of completed surveys. The researcher then contacted the institutional contact to check for any additional returns that might have been received late. The institutional contact contacted the deans of the various departments involved in the study and found several packages that had been not been correctly returned. These surveys were forwarded to the Institutional Research Department. Additionally, follow-up emails were sent to those instructors who had failed to meet the return deadline.

This additional effort resulted in an additional week being added to the return timeframe. At the end of this third week, the number of surveys reached 311, and the researcher informed the institutional contact that the return window was closed. Data analysis proceeded with 311 surveys.

Treatment of the Data

Returned surveys were numbered and scanned into an Access database. The data were then imported into SPSS and the scores analyzed for reliability (Cronbach's alpha) and content validity (Pearson r). Data for each hypothesis were tested using the

multivariate analysis of variance (MANOVA) statistical technique to determine whether the groups (independent variables) differed on more than one dependent variable. A post hoc descriptive discriminate analysis (DDA) was conducted for Hypothesis 1. Data analysis was organized by hypothesis, and the results are reported in chapter 4.

Summary

This chapter detailed the methodology used to develop and administer a survey instrument based on three components of the model of college outcomes for adults. Chapter 4 contains the findings of the study.

CHAPTER 4

FINDINGS

Overview

This chapter includes the following sections: (a) Demographics, (b) Instrument Analysis, (c) Hypotheses Analysis, and (d) Summary. The Demographics section describes the study sample and response rate, classification procedures, and results for the technical/nontechnical and traditional/nontraditional categories. The Instrument Analysis section reports the results of the data analysis as well as the final alignment of each survey question with a model component. It contains statistics detailing item reliability and scale intercorrelations. The Hypotheses Analysis section contains the results of the MANOVA statistical tests and reject or fail-to-reject finding for each. The analysis for Hypothesis 1 includes the results of a post hoc DDA.

Demographics

The study utilized a sample of convenience ($n=311$). The target number of complete responses was a combination of 300 traditional, nontraditional technical, and nontechnical students. Surveys were sent to 46 classes with 26 classes returning their survey packages to the CCCCD Institutional Research Office. A total of 1,000 surveys were dispensed and 311 were returned for a return rate of 31.1%.

Demographic information was collected from each participant in order to classify the student as being traditional or nontraditional (minimally, moderately, or highly) and technical or nontechnical. Survey respondents were 64.1% female and 34.9% male; 59% worked over 20 hours a week and were classified as part-time students; 59.3% were

single (never married), 33% currently married, 6.1% divorced and 1% widowed; 36.9% lived with their parents, 20.9% alone or with a roommate, 37.8% with their spouse or spouse and children, and 3.2% lived only with their children. The mean age was 27.13. Participants were classified as technical (n=128) or nontechnical (n=101) as well as traditional (n=11), minimally nontraditional (n=71), moderately nontraditional (n=193), and highly nontraditional (n=36) in accordance with Horn's (1996) stratification of nontraditional students.

Technical or Nontechnical Classification

Items 50 and 51 on the survey instrument were used to categorize participants as technical or nontechnical. Eighty-two participants were excluded from this group due to incomplete or missing information on these two items. As a result, there were 128 technical participants and 101 nontechnical participants.

Traditional or Nontraditional Classification

Classification into the traditional/nontraditional categories was determined by adding together the traits listed in Horn's (1996) definition. Participants with zero traits were classified as traditional; one trait, minimally nontraditional; two or three traits, moderately nontraditional; four or more traits, highly nontraditional. This was accomplished by compiling responses from Items 57, 58, 59, 60, 62, and 63 which showed participant Financial Responsibility, Employment, Single-Parent Status, College Funding, and Delayed Enrollment (see Table 3).

Table 3

Frequencies and Percentages Utilized to Calculate Traditional or Nontraditional

Category	Frequency	Percentage
Financially responsible for self		
Yes	204	65.4%
No	102	32.7%
No answer	5	1.6%
Works more than 31 hours a week		
Yes	117	37.6%
No	194	62.2%
Single parent		
Yes	12	3.8%
No	299	96.1%
Parents provide college funding		
Yes	67	21.5%
No	244	78.5%
Delayed enrollment for 1 year		
Yes	74	23.7%
No	237	76.2%

As a result of this classification, 11 participants were classified as traditional, 71 as minimally nontraditional, 193 as moderately nontraditional, and 36 as highly nontraditional.

Instrument Analysis

Reliability

Cronbach's alpha was calculated for each of the three model components based on the item alignment in Table 2. The Cronbach's alpha for each model component was then analyzed to determine the reliability of each based on the deletion of items with negative and low corrected item-total correlations. All items with negative corrected

item-total correlations were eliminated. The researcher adjusted the number of items in each category to achieve the highest Cronbach's alpha for each component. Table 4 lists the final items for each component that achieved a maximum Cronbach's alpha. This alignment was utilized for all remaining statistical analyses.

Table 4

Item Alignment Used in Statistical Analyses

Model construct	Items assigned
Prior Experience & Personal Biography	17,18,20,21,22,24,28,29,31,32
The Connecting Classroom	1,2,4,5,6,8,10,12,13,16,19,26,27,33
Life World Environment	34,35,36,37,39,40,41

Table 5 contains the results of the Cronbach's alpha calculations for each model component.

Table 5

Cronbach's Alpha

Model construct	N of items	Cronbach's alpha
Prior Experience & Personal Biography	10	.650
The Connecting Classroom	14	.705
Life World Environment	7	.655

Score reliability coefficients for each of the three constructs were positive however, ranged from low to medium. The Cronbach's alpha values for Prior Experience & Personal Biography (.650) as well as Life World Experience (.655) were low and

allowed for a fair amount of measurement error. The Connecting Classroom construct was acceptable at .705.

Scale Intercorrelations

A Pearson Correlation Coefficient (r) (two-tailed) was calculated (see Table 6) to assess the association among the three dependent variables. Correlation measures size and direction of variable relationship (Tabacknick & Fidell, 1996).

Table 6

Pearson r

Model construct	PE&PB	CC	LWE
Prior Experience & Personal Biography	1		
The Connecting Classroom	.181*	1	
Life World Environment	.391*	.242*	1

Note. * $p < .01$.

These low correlations, although statistically significant, provided a good to high probability that the three components tested were self-contained and exclusionary constructs and that the type of data collected by each construct was not shared with or collected by another.

Hypotheses Analysis

Each of the study's three hypotheses was analyzed using multivariate techniques (MANOVA). The researcher used Box's M to test for homogeneity of variance-covariance and Wilks's Lambda (Λ) for statistical significance and effect size. A post hoc DDA was performed on Hypothesis 1.

Homogeneity of Variance-Covariance Matrices

MANOVA requires an assumption that variance-covariance matrices within each cell of the design are sampled from the same population variance-covariance matrix and that they can be “reasonably pooled to create a single estimate of error” (Tabachnick & Fidell, 1996, p. 282). Additionally, numerous dependent variables in combination with unequal cell sample sizes can result in distorted alpha levels (Tabachnick & Fidell, 1996).

Box’s M was used to test for homogeneity of variance-covariance. Box’s M is extremely sensitive to the assumption of normality, and too sensitive to use at a routine ($p < .05$) level (Garson, 2005; Tabachnick & Fidell, 1996). The Box’s M for this study was .009, which not statistically significant at $p < .001$.

Wilks’s Λ

A MANOVA was performed on the three model constructs. The independent variables were traditional/nontraditional and technical/nontechnical. Significance was determined utilizing Wilks’s Λ (see Table 7) a MANOVA test statistic used “to test whether there are differences between the means of identified groups of subjects on a combination of dependent variables” (Crichton, 2000, p. 381). Wilks’s Λ is the linear combination of the variances in the dependent variables that is not explained by the independent variables. An F approximation is utilized to evaluate Wilks’s Λ , therefore, this value and associated degrees of freedom are given in Table 7 (Tabachnick & Fidell, 1996).

Table 7

MANOVA Results Utilizing Wilks's Λ Criterion

Effect	Value	<i>F</i>	Hypothesis <i>df</i>	Error <i>df</i>	<i>p</i>
Traditional/nontrad**	.936	2.224	9.000	722.971	.019*
Tech/nontech	.987	.632	6.000	594.000	.705
Trad & tech	.932	1.169	18.000	840.528	.280

Note. * $p < .05$. **The traditional/nontraditional category contains four subgroups: traditional, minimally nontraditional, moderately nontraditional, and highly nontraditional.

The main effect of traditional/nontraditional on the three dependent variables was statistically significant ($p = .019$, $p < .05$). The main effect of technical/nontechnical on the dependent variables was not statistically significant ($p = .705$, $p > .05$). There was also no statistically significant interaction ($p = .280$, $p > .05$) between the combined two independent variables and the three combined dependent variables.

Effect Size

Wilks's Λ was also used to measure the strength of association or effect size (variance that is accounted for by the best linear combination of dependents variable). Therefore, 1- Wilks's Λ is equal to the variance in the combined dependent variables that that is accounted for by the independent and is analogous to eta squared in an Analysis of Variance (ANOVA) (Tabachnick & Fidell, 1996; Wuensch, 2004).

The effect size (see Table 8) was calculated using this formula and converted to a percentage (French & Poulsen, 2002).

Table 8
Effect Size

Effect	Value	1-Wilks's Λ	%
Traditional/nontrad	.936	.064	6.4%
Tech/nontech	.987	.013	1.3%
Trad & tech	.932	.068	6.8%

Note: *The traditional/nontraditional category contains four subgroups: traditional, minimally nontraditional, moderately nontraditional, and highly nontraditional.

In this study, strength of association (effect size) was low for all three independent variable groups; 6.4% of the variance in the four subgroups of the traditional/nontraditional independent variable was accounted for by the three combined dependent variables. Only 1.3% of the variance in the technical/nontechnical groups was accounted for by the three combined dependent variables and 6.8% in the technical/nontechnical and traditional/nontraditional group (Tabachnick & Fidell, 1996).

Hypotheses Findings

MANOVA significance (see Table 9) and the results of the effect size calculations are presented with each hypothesis.

Ho1. There was no statistically significant main effect between nontraditional and traditional students in community college courses, as measured by the constructs of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.

This study rejected the first null hypothesis that there was no statistically significant main effect ($p=.019, p<.05$) between traditional and nontraditional students (independent variables) and the constructs of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience (dependent variables). The effect size was .064, or 6.4% of the variance in the independent variable was accounted for by the three combined dependent variables.

This study found that nontraditional students vary from traditional students in regards to the three model constructs. To further examine the differences within the groups contained in this independent variable (traditional, minimally nontraditional, moderately nontraditional, and highly nontraditional), a post hoc DDA was conducted.

Descriptive Discriminate Analysis was utilized as a post hoc measure to further study the separation or differences in the traditional and nontraditional groups (Dolenz, 1993). In calculating the DDA, the dependent variables used in the MANOVA became descriptors (independent variables), and the independent variable of traditional versus nontraditional was used as the group (dependent variable).

The analysis develops a number of discriminating functions which is equal to the actual number of groups to be tested minus one or the number of discriminating variables minus one (whichever is less). Coefficients for function 1 are derived to maximize the difference in group means. This process is repeated for function 2, with the caveat that values on the function 2 are not correlated with the values on function 1. The process continues to be repeated for all remaining variables until no more unique functions can be derived (Dolenz, 1993).

Descriptive Discriminate Analysis examines the data to find the dimensions along which the groups differ and the classification functions that predict group membership (Tabachnick & Fidell, 1996). Results are reported in the form of a MANOVA, and the most common measure of statistical significance used is the Wilks's Λ . In the DDA however, the Wilks's Λ is converted to a chi-square or F approximation to test significance. In assessing effect size, the closer the Wilks's Λ is to zero, the larger the effect and the greater the group differences (Dolenz, 1993).

Table 9

Descriptive Discriminate Analysis Results

Test of functions	Wilks's Λ	Chi-square	<i>df</i>	<i>p</i>
1 through 3	.943	17.828	9	.037*
2 through 3	.983	5.312	4	.257
3	.999	.194	1	.660

Note. * $p < .05$.

The DDA for this study generated three functions (see Table 9). The Wilks's Λ for Functions 1-3 combined explained a statistically significant amount of variance in the dependent variables ($p = .037$, $p < .05$). The combination of Functions 2 and 3 was not statistically significant ($p = .257$, $p > .05$), signifying that the statistical significance in the combination of functions 1-3 was only attributable to Function 1. Function 3 was not statistically significant ($p = .660$, $p > .05$). Therefore, the group differences shown by the MANOVA are explained by one underlying dimension (Field, 2002).

An effect size was calculated for the three functions by squaring the canonical correlation for each. This is analogous to the calculations generated by 1- Wilks's Λ in

the (MANOVA) or eta squared (ANOVA). The effect sizes for all three functions were low: Function 1 was .04, Function 2, .017, and for Function 3, <.001.

The structure and standardized coefficients for Function 1 provided further details on the underlying group differences (see Table 10).

Table 10
Function 1: Function and Structure Coefficients

Variables	<u>Function 1</u>	
	Function	Structure
PE&PB	.053	.395
CC	-.256	<.001
LWE	1.011	.969*

Note. * Largest absolute correlation between each variable and any discriminate function.

Life-World Experiences contributed the most to describing group differences (.969). The greatest difference among the four groups of traditional, minimally nontraditional, moderately nontraditional, and highly nontraditional was attributed to the Life-World Environment construct. To further determine exactly how each of the four groups scored, group centroids for Function 1 were analyzed (see Table 11).

The minimally nontraditional group scored higher on the latent dependent variable (based on the group centroids). The latent dependent variable was positively related to the Life-World Environment in Function 1, indicating that the minimally nontraditional group scored the highest on the Life-World Environment construct.

Table 11
Group Centroids

Group	Centroid
Traditional	.187
Minimally Nontraditional	.355
Moderately Nontraditional	-.105
Highly Nontraditional	-.194

Figure 2 provides a scatter plot of the canonical discriminate functions for each group on Function 1 and 2.

Figure 2. Canonical discriminate functions with group centroids.

Ho2. There was no statistically significant main effect between technical and nontechnical students in community college courses, as measured by the

components Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.

This study failed to reject the null hypothesis that there was no statistically significant main effect ($p=.705, p<.05$) between technical and nontechnical students (independent variables) and the constructs of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience (dependent variables). The effect size (.013) was low, or 1.3% of the variance in the independent variable accounted for by the three combined dependent variables. Therefore, this study found that technical students are not different from nontechnical students in regards to the three model constructs.

Ho3. There was no statistically significant interaction between traditional and nontraditional students and technical and nontechnical students in community college courses, as measured by the components of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.

This study failed to reject the null hypothesis that there was no statistically significant interaction ($p=.280, p<.05$) between traditional and nontraditional students and technical and not technical students (independent variables) and the constructs of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience (dependent variables). The study found that .68 or 6.8% of the variance in the independent variable was accounted for by the three combined dependent variables. Therefore, this study found no difference between traditional and nontraditional students

when compared to technical and nontechnical students in regards to the three model constructs.

Summary

This chapter reported the study findings concerning data analysis, instrument reliability and validity, sample demographics, and statistical tests utilized to analyze the hypotheses. Statistical tests utilized included Cronbach's alpha, Pearson's r , MANOVA utilizing Wilks's Λ criterion, and DDA. MANOVA results were used to analyze each hypothesis. The first hypothesis was rejected, but the researcher failed to reject Hypotheses 3 and 4. A post hoc DDA was conducted on Hypothesis 1. Chapter 5 contains a summary of the study's findings, conclusions, and recommendations.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Overview

This chapter includes three sections: (a) Summary of Findings, (b) Conclusions, and (c) Recommendations. In the Summary of Findings, the researcher provides an overview of the study methodology and results. The Conclusions section contains a discussion of the findings for each of the three hypotheses as well as inferences drawn from the results. The Recommendations section provides areas for further research.

Summary of Findings

The purpose of this study was to examine three components of the model of college outcomes for adults: (a) Prior Experience & Personal Biographies, (b) the Connecting Classroom, and (c) Life-World Environment, and to assess their application to traditional and nontraditional students in community colleges in both technical and nontechnical courses.

The study sample was comprised of 311 community college students enrolled in technical and nontechnical courses at CCCCD during Fall 2005. The researcher developed a survey instrument based on the three model components through a review of the literature. A content validity exercise was conducted utilizing a panel of seven experts in the field of training and development. Item reliability was determined and a 65-item survey was finalized for administration.

The survey was delivered to technical and nontechnical classes through the CCCCD Institutional Research Office which also assisted in monitoring survey tracking

and return. Survey results were scanned into a database and compiled by the researcher. Demographic data collected were utilized to classify students into a technical or nontechnical grouping as well as four classifications of traditionalism: (a) traditional, (b) minimally nontraditional, (c) moderately nontraditional, and (d) highly traditional.

The data for each hypothesis were tested using the MANOVA statistical technique. The Wilks's Λ criterion was utilized to determine statistically significant main effect between the independent variables (groups) of traditional and nontraditional, and technical and nontechnical and the dependent variables of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience. As a result of the MANOVA, the researcher rejected Hypothesis 1 ($p=.019, p<.05$) and failed to reject Hypotheses 2 ($p=.705, p<.05$) and Hypothesis 3 ($p=.280, p<.05$).

A post hoc DDA was conducted on Hypothesis 3 (traditional nontraditional groups) and the ability of the three component variables to describe group membership. The analysis found that the groups differed on the Life-World Environment construct, and that the minimally nontraditional group showed the largest amount difference of all four groups.

Conclusions

Ho1. There was no statistically significant main effect between nontraditional and traditional students in community college courses, as measured by the components of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.

The study found a statistically significant main effect ($p=.019, p<.05$) between nontraditional and traditional students and the model components of Prior Experience &

Personal Biographies, the Connecting Classroom, and Life-World Experience in community college courses. This finding supports the conclusions of Chartrand (1990), Kasworm (1990; 1997), Cupp (1991), Pascarella and Terenzini (1991), Kuh (1993), Graham and Donaldson (1996), and Donaldson et al. (1999), whose studies of the nontraditional student led to the formulation of the Donaldson and Graham model. This finding also adds to the literature of previous analyses of the model components such as Justice and Dornan's (2001) assessment of adult cognition.

These findings provide evidence that the student populations differ in their approach to the classroom as well as in their day-to-day responsibilities and activities. Institutions design programs based on the assumption that the student can fully participate in the academic and social life of the institution (Kasworm & Pike, 1994). The findings suggest that the nontraditional students' needs may be quite different from the programs provided by some educational institutions.

One of the unique aspects of the study was that it utilized Horn's (1996) strata to classify students into a nontraditional status and did not utilize the sole criterion of age. This was an attempt to circumvent Donaldson's own criticism of the model that it treated the nontraditional population as a homogeneous entity (J. F. Donaldson, personal communication, February 5, 2005). This stratification process resulted in only 11 students being classified as traditional. The bulk of the study participants possessed at least one component that placed them in the minimally nontraditional category. A further analysis of the data including age is warranted to see whether the differences are more pronounced when viewed with age as a factor.

The findings support the need for administrators to reevaluated admissions and remediation programs (Kasworm, 1990; Pascarella & Terenzini, 1991). Previous systems were developed to formulate required remediation, prerequisites; access to fields of study was created out of the traditional student experience (Kasworm & Pike, 1994).

Two additional questions should be examined concerning the number of young students who now seem to carry burdens and baggage previously associated with the old. First, are our ideas about the lifestyles and work requirements of younger students valid? Second, is the model one that is applicable only to nontraditional students, or should the majority of students be viewed as nontraditional, given society's modern requirements?

Further testing and analysis is needed of the post-hoc DDA findings that the Life-World Environment construct contributed most to group differences and that the largest difference was found in the minimally nontraditional group. This finding along with the low numbers of traditional students currently found in our institutions could help formulate a new definition of what comprises a traditional or nontraditional student.

The model has yet to be tested as an entire unit, but this study serves as a starting point for researchers seeking to test all components of the model as a whole in a community college or 4-year institution. A valid model would serve as a framework for designing and conducting college and workforce certification programs for today's nontraditional students.

Ho2. There was no statistically significant main effect between technical and nontechnical students in community college courses, as measured by the components Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.

The study found no statistically significant main effect ($p=.705$) between technical and nontechnical students in community college courses and the model constructs. No refereed studies were found in a review of the literature which examined the differences in these groups. This study can serve as a starting point for further investigation utilizing a larger sample as well as examining the question of differences in the population at 4-year institutions.

Ho3. There was no statistically significant interaction between traditional and nontraditional students and technical and nontechnical students in community college courses, as measured by the components of Prior Experience & Personal Biographies, the Connecting Classroom, and Life-World Experience.

This study found that there was no statistically significant interaction ($p=.280$) between technical and nontechnical students and traditional and nontraditional students in a community college setting as measured by the three model constructs. Although the literature includes several studies that examine the differences in traditional and nontraditional students, no refereed studies were found in a review of the literature that examined the differences in these groups. This study can serve as a starting point for further investigation utilizing a larger sample as well as examining the question of differences in the population at 4-year institutions.

The findings indicate that the traditional and nontraditional students and technical and nontechnical students do not differ on the model constructs. No difference was found in the traditional and nontraditional students in relation to a technical or nontechnical orientation, enrollment in technical classes, or in seeking of technical degrees or

certifications. A follow-up analysis of age and technical orientation might provide further insight into which students are choosing a technical path and why.

Recommendations

(1) Additional research is needed to determine just who our students are and what they need from an educational institution. The low number of historically traditional students ($n=11$) in this study is representative of the fact that the majority of today's students have more complications and responsibilities than previously acknowledged. Higher education must reassess the composition of their audience to insure that they are meeting their needs. A re-definition of "traditional" may, in essence, reverse our definition of just what constitutes a "normal" student.

(2) Future studies should focus on testing the model as a whole. Justice and Dornan (2001) along with the present study have tested four of the six model components and found statistical significance. The two remaining components (Psychosocial Value & Orientation and Outcomes) may be tested alone; however, a test of the whole would provide more insight into model interaction. A test of the whole model may further determine its value to educators and institutions of higher learning.

(3) All components should be tested in both community colleges and 4-year institutions to determine whether all components of the model have a significant contribution to the design and improvement of higher education programs for nontraditional students. In order to generalize the model to all institutions of higher education, additional studies could include schools with distance-only instruction.

(4) Application or adoption of the model to business and industry provided training is warranted. Further insight into differences in students in workplaces situations could contribute to training effectiveness.

(5) Valid, reliable instruments currently in use, combined with completion statistics, could be utilized to form a complete test of the model. However, reliability of the instrument (see Table 5) developed for this study was low for Prior Experience & Personal Biographies (.650) and Life-World Experience (.655) and requires further analysis and refinement. The use of ready-made instruments could facilitate a faster means of model evaluation.

(5) This study did not utilize the model constructs to examine differences in the ethnicity or gender of nontraditional students. Additional research is needed to determine whether model application varies based on these demographic categories as well as marital status and age. Past studies of nontraditional students have relied solely on age for classification purposes. Further study is needed to understand the interaction that age alone has with all of the model constructs. Additionally, this examination of the age factor may also contribute to the definition of what constitutes the “new traditional” student in today’s educational settings.

Implications for the Field of Performance Improvement

Community colleges provide business and industry with trained, certified workers. They funnel qualified employees into workplace as well as provide a vehicle for job re-training and promotion. These institutions should continually assess the appropriateness of their services as well as provide the best-trained employee for

industry. The model of college outcomes for adults may provide a framework for this evaluation process.

Additionally, business and industry must recognize that, if the nontraditional students have specific requirements in a college setting, these factors may also be an influence in workplace or business provided training situations. Systems and programs designed to educate and improve performance in the workforce can benefit from a model which codifies those factors contributing to a successful adult learning experience.

APPENDIX A
HUMAN SUBJECTS

UNIVERSITY OF NORTH TEXAS

Institutional Review Board Research Consent Form

Title of Study: NONTRADITIONAL STUDENTS IN COMMUNITY COLLEGES AND THE MODEL OF COLLEGE OUTCOMES FOR ADULTS

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose and benefits of the study and how it will be conducted.

Study Purpose, Description, Procedures, and Confidentiality

The purpose of this study is to examine three components of a model which was developed to explain differences between traditional and nontraditional students in college. For the purposes of this study, a survey will be given to students attending technical and nontechnical classes at a North Texas community college. The results of this study may be used to better design educational programs for nontraditional students.

This survey should take approximately 20 minutes to complete. Responses to the survey are anonymous. Your individual responses will only be read by the researcher conducting this study. The researcher will hold all responses as confidential. Survey data will be compiled in an Access database and the original surveys will be shredded by the researcher.

Research Subject's Rights

I have read or have had read to me all of the above. The researcher has explained the study to me and answered all of my questions. I have been told the risks and/or discomforts as well as the possible benefits of the study. I understand what the study is about, how the study is conducted, and why it is being performed.

I understand that I do not have to take part in this study and my refusal to participate or my decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop my participation at any time.

In case I have any questions about the study, I have been told I can contact the Principal Investigator Nanette Philibert or Dr. Jeff Allen, Applied Technology, Training & Performance Improvement Program at (940) 565-2093.

I understand my rights as a research subject and I voluntarily consent to participate in this study. I have been told I will receive a signed copy of this consent form.

Signature of Subject

Date

Principal Investigator:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the known benefits and risks of the research. It is my opinion that the subject understood the explanation.

Nanette Philibert

THIS RESEARCH STUDY HAS BEEN REVIEWED AND APPROVED BY THE UNT INSTITUTIONAL REVIEW BOARD (IRB). THE UNT IRB CAN BE CONTACTED AT (940) 565-3940 OR SBOURNS@UNT.EDU WITH ANY QUESTIONS REGARDING THE RIGHTS OF RESEARCH SUBJECTS

APPENDIX B
INSTRUMENT

September 12, 2005

Dear Faculty Colleague,

The University of North Texas in conjunction with CCCCDC is conducting a study to examine differences in Traditional and Non-Traditional students enrolled in community college programs. The study will be conducted from September 13, 2005 through September 28, 2005. Your class members have been selected at random to participate by completing the attached questionnaire.

We have made every effort to minimize any intrusion into your class time. It may be helpful for you to review the questionnaire and instructions prior to distribution to familiarize yourself with the contents and procedures. Each survey contains a consent form which the student must read and sign. Student participation is voluntary. The survey should take about 20 minutes for student to complete on their own time, and all results are anonymous.

Please request that students fill out the survey outside of class time and return the instrument at the next class section. At that time, please collect the completed surveys and thank your students for their participation on behalf of the College.

Please return the completed surveys to the Institutional Research Office in the original envelope provided. You may send the completed surveys through campus mail or you may drop them into any of the student evaluation lock boxes on your campus. Any students who forget to complete or return the questionnaire should return it during the next class session or, if possible, sooner to your office. All surveys must be returned to the Institutional Research Office by Wednesday, September 28, 2005 at 5 p.m.

At the completion of the study, you will receive a copy of the findings. Thank you for your time and interest in this project and your support of ongoing collaborative research with our higher education partners.

A handwritten signature in black ink, appearing to read 'Thom D. Chesney'.

Thom D. Chesney
Vice President Academic Affairs

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CCCCDC does not discriminate on the basis of race, color, religion, age, gender, national origin, disability or veteran status.

Community College Student Survey

Instructions:

Please read each item. Mark the response that indicates if you **Strongly Agree**, **Agree**, are **Neutral**, **Disagree** or **Strongly Disagree** with the statement. Remember that it is your first impression that counts.

Questions

Response Definition: SD=Strongly Disagree D=Disagree N=Neutral A=Agree SA=Strongly Agree

	SD	D	N	A	SA
1. I like to discuss new ideas and solicit opinions of others in class.....	☐	☐	☐	☐	☐
2. I like a free-flowing exchange of ideas and information between students and faculty.....	☐	☐	☐	☐	☐
3. I like to relate things I learn to my previous knowledge and experiences.....	☐	☐	☐	☐	☐
4. I like to interact with the information that I study in class.....	☐	☐	☐	☐	☐
5. I like it when the faculty asks me about my real-world experience and uses that information to add to the classroom lessons.....	☐	☐	☐	☐	☐
6. I like the formality of the classroom.....	☐	☐	☐	☐	☐
7. I do not like to do group projects.....	☐	☐	☐	☐	☐
8. I like to hear different opinions and arguments in class.....	☐	☐	☐	☐	☐
9. I just want to memorize facts.....	☐	☐	☐	☐	☐
10. I do not like to study alone.....	☐	☐	☐	☐	☐
11. I prefer to take on-line classes.....	☐	☐	☐	☐	☐
12. For me, the classroom defines my college experience.....	☐	☐	☐	☐	☐
13. For me, the classroom is the primary place for learning.....	☐	☐	☐	☐	☐
14. I believe I am improving myself by going to school.....	☐	☐	☐	☐	☐
15. I believe that a degree or certificate is necessary to get what I want in life.....	☐	☐	☐	☐	☐
16. I believe that learning only takes place within the walls of the classroom.....	☐	☐	☐	☐	☐
17. I believe that a portfolio assessment of my life and work experience should be counted toward my degree/certification.....	☐	☐	☐	☐	☐
18. I believe that students are responsible for their own deficiencies.....	☐	☐	☐	☐	☐
19. I believe that faculty members who have real-world experience are more knowledgeable than other faculty members.....	☐	☐	☐	☐	☐
20. I believe that schools should give me credit for my life experience.....	☐	☐	☐	☐	☐
21. I think that knowledge must be connected to my life and my world.....	☐	☐	☐	☐	☐
22. I think that relating what is learned in class to life is important.....	☐	☐	☐	☐	☐
23. I think that the college classroom is confusing.....	☐	☐	☐	☐	☐
24. I think that information I learn is unrelated to the other parts of my life.....	☐	☐	☐	☐	☐
25. I want the faculty to tell me what I need to know and I will learn that.....	☐	☐	☐	☐	☐
26. I discuss assignments and school work with my fellow students.....	☐	☐	☐	☐	☐
27. I use what I learn in the classroom to build on my existing knowledge.....	☐	☐	☐	☐	☐
28. I do not think that what I learn in college is applicable to my life role.....	☐	☐	☐	☐	☐
29. I am more knowledgeable than my transcripts show.....	☐	☐	☐	☐	☐

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Community College Student Survey

Response Definition: Y=Yes N=No NA=Not Applicable

	Y	N	NA
48. I am enrolled in a Certification Program.....	☐	☐	☐
49. I am enrolled in an Associate Degree Program	☐	☐	☐
50. My degree or certification will be in a technical field such as nursing, drafting, electronics, computers, automotive repair, etc.	☐	☐	☐
51. My degree or certification will be in a non-technical field such as psychology, English, art, history, political science, foreign languages, education, etc.	☐	☐	☐
52. I will transfer to a four-year college or university after I finish my Associate's Degree here.	☐	☐	☐
53. I will go to work after I finish my Associate's Degree or certification program here.	☐	☐	☐

Demographics

54. I consider my ethnicity to be...(Check one)

☐ African-American	☐ Native American	☐ Asian/Pacific Islander
☐ Spanish/Hispanic	☐ Caucasian	☐ Other

55. Age (Please write in boxes)

--	--

56. Gender

M	F
☐	☐
T	F
☐	☐

57. I am financially responsible for myself.

58. I live:

☐ at home with my parents.	☐ by myself.
☐ with a roommate.	☐ with my spouse.
☐ with my spouse and children.	☐ with my children.

59. I am ... (Check one)

- ☐ Single (never married) ☐ Married ☐ Divorced ☐ Widowed

60. Number of children (Please write in boxes)

--	--

61. I am...

- ☐ A current member of the National Guard
- ☐ A current reserve member of the Armed Forces
- ☐ A current active duty member of the Armed Forces
- ☐ A veteran of military service.
- ☐ This question does not apply to me.

Community College Student Survey

62. I pay for college by the following means: *(Check all that apply)*

☐ My parents	☐ Scholarships
☐ Grants	☐ GI Bill
☐ My employer pays for my tuition.	☐ My employer pays for my tuition and books.
☐ I pay for my college out of my own pocket.	☐ Federal funds not listed here.
☐ State funds not listed here.	☐ Other

63. I am...

☐ Employed and work 1 to 10 hours per week.	☐ Employed and work 11 to 20 hours per week.
☐ Employed and work 20 to 30 hours per week.	☐ Employed and work 31 to 40 hours per week.
☐ Employed and work over 40 hours per week.	☐ Unemployed not looking for a job.
☐ Unemployed looking for a job.	

64. I participate in the following off-campus activities...*(Check all that apply)*:

☐ City or community sponsored sports	☐ Work sponsored sports
☐ Community Social Clubs	☐ Military Veterans' Groups
☐ Professional Organizations	☐ Business-related Organizations
☐ Church	☐ Childrens' School Activities

65. I participate in the following on-campus activities...*(Check all that apply)*:

☐ Intramural team sports	☐ Intramural individual sports
☐ Official school team sports	☐ Official school individual sports
☐ Social Clubs	☐ Academic Clubs

This is the end of the survey. Thank you for your time and attention!

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