FACTORS CONTRIBUTING TO THE THREE-YEAR GRADUATION RATE OF STUDENTS IN TECHNICAL PROGRAMS AT AN URBAN COMMUNITY COLLEGE

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With an increasingly technological and competitive world economy, more jobs require employees to have achieved the advanced skills and knowledge gained only through postsecondary education. The data regarding the supply and demand between the workforce and higher education present a challenge for community college technical programs. These are the programs charged training the new workforce. An effort to increase the persistence and three-year graduation rate for technical students is one of Tarrant County College District’s initiatives to prepare students for the workforce. Therefore, the purpose of this study was to determine factors that contribute to the three-year graduation rates of students enrolled in technical programs at the Northwest Campus of the Tarrant County College District. A quantitative survey approach was selected for this study targeting 191 technical students. The results of this study showed that females, who had established a degree plan and declared a major during the first two semesters at the urban community college campus under study, graduated in three years. The graduation rates for males in this study were lower than for females. Also, technical students who were 18 to 35 years old were more likely to graduate. Students who did not complete a degree plan in the first two semesters did not graduate in the three-year time frame. For the 77 respondents, students were more likely to graduate if they declared a major and established a degree plan. Implications for practice and recommendations for further study are provided.
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CHAPTER 1

INTRODUCTION

The Texas economy is becoming more diversified, particularly in the area of its economics. The growth of e-commerce, economic distinction, and the interrelated world economy has created the need for a new, more technologically sophisticated workforce. Business and industry in Texas have started to shift from labor-based systems, such as manufacturing, construction, and mining, to knowledge-based systems, such as transportation, e-trade, real-estate, insurance, government, and finance (Bureau of Labor Statistics, 2005).

Job growth in Texas has amounted to almost 1.9 million jobs, or 83% of all employment, through 2008. Health-related fields, educational services, and business services are predicted to continue to be among the fastest growing occupations. These three service industries will account for about 70% of all job growth by 2009. Correction officers, computer system analysts, and home health aide jobs are all recorded on both the largest producer list and the fastest growing list. Approximately 80% of high-tech employment is expected to rise in Dallas, Fort Worth, Houston, and Austin (Bureau of Labor Statistics, 2005).

Further, the Texas Workforce Commission (2005, 2007) addressed how the transportation, real-estate, and government have changed over the past two decades. According to the Commission, in 1980, construction, manufacturing, and mining employment accounted for nearly 30% of jobs in Texas, with 70% coming from the e-trade, transportation, government, and real-estate. By 2009, less than 18% of employment will be in the manufacturing and construction industries, according to projections, with over 82% related to the real-estate, transportation, e-trade, and government industries.
Another projection found in the *Occupational Outlook Quarterly* produced by the Bureau of Labor Statistics (2005) shows that the number of new jobs created between 2000 and 2010 that require post-secondary training will be more than two and a half times the number of new jobs requiring a bachelor’s degree or higher. To meet the projected employment needs, Texas must have a more highly educated workforce. Routine, process-oriented skills are no longer enough. Analytical and problem-solving skills, communication skills, and the ability to adapt to and manage change are requisite skills to enter the workforce. The workforce must continue to enhance the state’s capacity, especially in the applied use of computer hardware and software technologies, or Texas will continue to fall behind other states. It is imperative for Texas to have a well-educated, technically skilled, and multilingual workforce in order to attract and keep new high-wage information industries in Texas.

The decline in manufacturing and the shift toward technology will require increased new training and education for the current workforce. These requirements will generate a renewed interest by business, industry, and the educational community in developing and expanding existing partnerships to provide for the accelerated demands for training and education in the field of technology. Primarily, these entities will seek assistance from the community college to train and educate for several of the newly-created jobs. As the need for local business and industry to enhance their partnerships with community colleges increases, so will the need to identify specific training and educational needs, and to provide resources for the development and field-testing of job-related training. Training is needed both in soft and technical skills to enhance the productivity of and to maintain workers in high demand areas. While some resources are provided to community colleges by business and industry, businesses
appear to be reaping far more benefits from low-cost, noncredit, and credit education and training than they are investing in postsecondary programs (Bureau of Labor Statistics, 2005).

Population growth continues to surge among various demographic groups, particularly among Hispanic households. Shifting demographics and an increasingly global economy, dictates to the secondary and postsecondary educational systems an immediate need to strengthen not only the current workforce but also the workforce of tomorrow (Texas Higher Education Coordinating Board [THECB], 2008). The State of Texas is in a position to be proactive and address the new workforce needs. The Texas State Plan for Career and Technical Education 2008-2013 is focused on improving academic and technical educational opportunities for students, through rigorous and relevant career preparation. Both the Texas Education Agency (TEA, 2007) and the THECB have action plans to address this demographic change. The TEA plan focuses on kindergarten through grade 12 students’ preparation for college, while the THECB focuses on closing gaps in college participation and success among a diverse student population.

With an increasingly technological and competitive world economy, more jobs are requiring the advanced skills and knowledge provided by postsecondary educational institutions. Although there are efforts to improve the quality of secondary education in the United States, our country’s international lead in college completion rate is decreasing. Despite increasing numbers of students entering college, a large percentage of these students are not earning college degrees (Plucker, Chien, & Zaman, 2006). The data regarding the supply and demand between the workforce and higher education present are problematic for higher
education and the nation. The data present a challenge for community college technical programs, as these are the programs charged with providing training for a new workforce.

**Historical Perspective of Community College Technical Programs**

In an effort to better understand the current position and needs of technical colleges, it is imperative to review a brief history of community college technical programs. Weinberger (2002) has noted the community college to be largely a phenomenon of 20th-century American higher education. The term applies to an array of institutions that offer six-month vocational diplomas, one- and two-year vocational, technical, and pre-professional certificates and two-year programs of general and liberal education leading to an associate’s degree. Two-year colleges may be public, private, proprietary, or special purpose, although public institutions represent the majority of community colleges in the 21st century.

Weinberger (2002) investigated how states, counties, municipalities, school districts, universities, and religious denominations have all organized community colleges. Some were designed for specific racial and ethnic groups, for women, or for specific purposes such as business, art, or military training. At the close of the 20th century, two-year colleges enrolled 5,743,000 students, and 96% of whom attended public community colleges. Nearly 40% of all undergraduate students attended community and junior colleges at this time. Between 1908 and 2000, the significance of this sector of higher education grew enormously as its predominantly public character evolved from a much wider variety of origins.

The terms community college, junior college, technical college, and technical institute include a wide array of institutions. Two-year college refers to all institutions where the highest degree awarded is the associate of arts, associate of science, associate of applied arts, or
associate of applied science. Generally, Weinberger (2002) defined community colleges as comprehensive institutions that provide (a) general and liberal education, (b) career and vocational education, and (c) adult and continuing education. Yet many two-year colleges do not offer the comprehensive curriculum outlined; therefore, these institutions are not considered community colleges in the comprehensive use of the term. The terms technical college and technical institute refer to those institutions conferring degrees no higher than a two-year degree or a diploma in a vocational, technical, or career field. Technical colleges are recognized for offering adult and continuing-education degrees in applied science (Weinberger, 2002).

High unemployment during the Great Depression of the 1920s and 1930s influenced the community colleges’ decisions to alter their missions to include workforce development. Semiprofessional became the dominant national term to describe junior (or community) college students, and the term was used until after World War II (WWII). Students who experienced challenges obtaining a bachelor’s degree were encouraged to pursue a two-year degree in an effort to be seen as more socially efficient. Many students desired more than a two-year education; therefore, they transferred to four-year universities. This national vocational movement gave junior colleges a target population. During this period public two-year institutions were encouraged to separate from high schools and affiliate with higher education. Prior to this time two-year institutions were patterned after the high school model. A new educational ranking came with the change in affiliation toward higher education institutions, which encouraged junior (or community) colleges to seek greater credibility through the creation of professional criteria and use of scientific methods (Weinberger, 2002).
After WWII, veterans were afforded additional opportunities to seek higher education through the Servicemen's Readjustment Act of 1944 (also more commonly known as the GI Bill). During the period after WWII skilled jobs were plentiful and community colleges experienced a large increase in enrollment. Adult and continuing education further contributed to the growth of community colleges. During this period, community colleges were seen as a good place to house continuing education programs (Quigley & Bailey, 2003).

In 1947, The Truman Commission created an important national document for community colleges. The document recommended that a group of public community colleges were to provide education to a diverse group of students at little or no cost, along with addressing community needs through a comprehensive mission (Quigley & Bailey, 2003). This gave students the opportunity to attend college near home as well as the opportunity to attend college who may not have had the financial ability to attend college. The findings led to improved opportunities for access at a time when colleges were not accessible to those of low socio-economic status and who could not travel long distances to four-year colleges.

During the 1960s, the American Association of Community Colleges expanded by adding 457 new community colleges, with the Baby Boomers contributing to the huge increase in enrollment. This growth continued through the 1970s accompanied by a change in the student body. Students came to colleges more often nontraditional, meaning they were older than 22, and many veterans from the Vietnam War were seeking skills for entering civilian positions. With this change came a need for a more highly trained and qualified faculty. In order to meet the need, community colleges began investing money in the development and training of their faculty (Quigley & Bailey, 2003).
During the 1980s, community colleges began to recognize a need to work more closely with high schools to prepare students for vocational and technical two-year programs (Quigley & Bailey, 2003). They honored open access to high school graduates seeking to further their education. According to Smith and Vellani (1999), “simple arithmetic is forcing urban community colleges to face problems that are unique in history, which there appear to be no acceptable solutions” (p. 9).

Smith and Vellani (1999) observed that urban community colleges are being required to justify what they do. Policymakers have questioned these colleges about graduation rates, transfer rates, and the time required for students completing a degree. In some states, policymakers questioned the efficacy of remediation, while at the same time these policymakers are pushing community colleges to require entrance examinations for gaining admission to community colleges, thus completely transforming the mission.

Profile of Tarrant County College District (TCCD) Technical Programs

The Tarrant County College District (TCCD) is a two-year comprehensive community college. There are four campuses located throughout Tarrant County that derive their names from their locations. In order of origination, the campuses are the South campus in Fort Worth, Northeast campus in Hurst, Northwest campus in Fort Worth, and Southeast campus in Arlington. There is an administrative office in downtown Fort Worth, and a fifth campus is under construction near the North side of downtown Fort Worth (District Office of Institutional Research, 2008).
TCCD offers the following academic awards:

1. The associate in arts degree for students whose primary goal is to transfer to a college or university and complete a bachelor’s degree and

2. The associate in applied science degree in 69 different technical programs and 139 certificates of completion programs which meet the immediate needs of the community.

TCCD has a long history of commitment to technical education and to meeting the needs of business and industry. The membership of advisory committees for each technical program consists of industry and business leaders specific to the discipline. These technical programs are spread across the current campuses, with some offered on only one campus. For example, aviation programs, police programs, and fire-technology programs are Northwest campus programs while the allied health programs reside at the Northeast campus. Programs which do not require specialized labs or equipment may be offered at all campuses. Technical education is clearly a part of the role and scope of the TCCD as it performs its mission (District Office of Institutional Research, 2008).

Technical education in Texas has always been subject to evaluation. Several measures have been predominant over the years. In 2007, TCCD adopted seven key performance measures that will be benchmarks to be attained or exceeded by 2011. These key measures of performance speak specifically to the success of technical programs, hence the future success of business and industry in Texas, throughout the Southwest and beyond (District Office of Institutional Research, 2008). TCCD, as other public postsecondary institutions, is held to accountability measures as the public demands to know about student learning outcomes.
Statement of the Problem

Educational institutions are held to accountability measures in an effort to ensure that the public is getting a good return on what has been invested. By using data from the THECB (2008), institutions of higher education in Texas can be studied and subsequently ranked on their level of performance in various areas. TCCD has identified seven key, somewhat interrelated, measures of performance to be assessed in conjunction with the one-year and three-year goals established for each measure. One of the accountability measures is the graduation and persistence rate of students. Thus, there is a significant effort to increase graduation rates at the TCCD. The college’s graduation rate is 8% in 150% of the time (three years), and the transfer out rate is 18% for 150% of the time (three years).

TCCD does not track the graduation rates of students enrolled in technical programs. There are approximately 9,221 students enrolled in technical programs at TCCD, but there is no separate calculation of their persistence or graduation rates. Ideally, students should remain enrolled in the program for six consecutive semesters to meet the three-year graduation rate which is seen as the college standard for degree completion. An effort to increase the persistence and three-year graduation rate for technical students in preparation for the entry into the workforce is one of the initiatives of the college district (District Office of Institutional Research, 2008). However, there has been no study that focuses on technical students and the factors contributing to their current retention to graduation rates.

Purpose of Study

The purpose of this study was to determine factors that contribute to the three-year graduation rates of students enrolled in technical programs at the TCCD’s Northwest campus.
Through identifying these factors, it is possible that the three-year graduation rate of technical students can be increased through retention strategies based on those factors.

Research Questions

The following research questions guided this study:

1. What are the distinct demographic factors that contribute to the three-year graduation rate of technical students?

2. What are the distinct academic factors that contribute to the three-year graduation rate of technical students?

3. What are the distinct non-academic factors that contribute to the three-year graduation rate of technical students?

Significance of the Study

The data generated from this study can be beneficial in increasing faculty and administrator awareness of technical programs’ impact on business and industry in the local community. They can also be beneficial in determining how all parties involved can help to increase the overall three-year graduation rates. Given the paucity of data on this research topic, the results of this study can add to the knowledge base of administrators and faculty with regard to retention and completion rates of technical students. A review of literature shows that there is a wealth of data regarding the cost of technical programs, funding for these programs, the effectiveness of technical and certificate programs, and technical student career goals. However, only limited data are available on student retention and graduation rates in technical programs. The latter was the focus for this study.
Definition of Terms

A number of terms were defined for the purpose of this study.

*Associate in Applied Science (AAS) degree.* This degree program is designed for immediate employment and/or career advancement and is composed of an orderly, identifiable sequence of courses designed to meet occupational competencies and outcomes. The degree program is composed of technical courses, general education courses, related instruction, and, as appropriate, elective courses to prepare students for employment as technicians or professionals (THECB, 2008).

*Certificate program.* This type of workforce program is designed for entry-level employment or for upgrading skills and knowledge within an occupation. Certificate programs serve as building blocks and exit points for AAS degree programs (THECB, 2008).

*College major.* This term refers to a student’s main field of specialization during his or her undergraduate studies.

*Community college.* Largely a phenomenon of 20th century American higher education, this label applies to an array of institutions that offer six month vocational diplomas; one-year and two-year vocational, technical, and pre-professional certificates; and two-year programs of general and liberal education leading to an associate degree. Two-year colleges may be public, private, proprietary, or special purpose districts, although public institutions represent the majority of community colleges in the 21st century (THECB, 2008).

*Degree plan.* This document refers to the academic program of courses and their related hours culminating in a degree or certificate.

*Graduation rate.* This term refers to data collected on the number of students entering
the institution as full-time, first-time, degree-or-certificate seeking undergraduate students in a particular year (cohort), by race/ethnicity and gender; the number of students completing their program within 150% of normal time to completion; the number of students who transfer to other institutions if transfer is part of the institution’s mission (THECB, 2008).

Retention. This term refers to a student actively involved in a degree program for two long semesters. A student is considered a dropout after three long semesters.

Technical program. This term refers to a collection of cohesive workforce education courses for which semester/graduate credit hours are awarded (THECB, 2008).

Technology education. This type of educational opportunity is for students to learn about the practices and knowledge related to technology required to solve problems and extend human capabilities.

Delimitations

In research, delimitations are used to narrow the scope of the study or outline what is not intended or included in the research study (Creswell, 2003; Leedy & Ormrod, 2001). Only factors contributing to the three-year graduation rate of students in technical programs at an urban community college were explored in this study. The study population was limited to a single institution. Therefore, only technical students at the TCCD Northwest campus were involved in the study.

Limitations

The population for this study was limited to 191 students enrolled in technical programs at the TCCD Northwest campus during the fall 2005 semester. Therefore, the results of this
study cannot be generalized to other colleges’ technical students.
CHAPTER 2
REVIEW OF THE LITERATURE

This review of the literature provides a broad overview of factors contributing to the three-year graduation rates. The following components relating to graduation rates in technical programs in community colleges are examined: (1) theoretical framework for student retention, (2) importance of technical programs, (3) historical and philosophical perspective on community college technical programs, (4) retention and graduation rates of community college students and (5) retention and graduation rates of students in technical programs.

Theoretical Framework for Student Retention

The framework for this study is eclectic in origin and formed from a synthesis of several models for retention. These models were developed by Tinto (1975, 1987, 1993), Cofer and Somers (2000), Astin (1993a, 1993b), Bean and Metzner (1986), and Webb (1989). Retention and attrition in higher education, specifically as addressed by Tinto, has focused on attrition in four-year colleges. Few studies have considered student retention at two-year institutions. According to Cofer and Somers, “A search of ERIC showed 1,886 college persistence studies from January 1966 to January 2000, with only 198 of these having hits on the term two-year colleges” (p. 786). They also reported that it is harder for two-year institutions to keep track of data on retention and attrition because of the ease of entrance, exit, and reentry for students at these institutions. Further, there have been theories focusing on student retention dating back 35 years (Tinto).

According to Tinto (1975, 1987, 1993), student retention or persistence is based on how
well students are engaged by the university. If students are socially integrated into their colleges and universities, they perceive themselves as part of the university and should be more likely to graduate in a timely manner, such as within four to six years at the university level and within two to three years at the community college level.

Astin’s (1993a, 1993b) theory of student involvement is similar to Tinto’s (1993) theory, except that Astin focused more on peer influence than on faculty and staff influence. Astin believed that student involvement played a main factor in student persistence. Astin’s (1993a, 1993b) and Tinto’s (1993) theories of student involvement and student engagement have led the way for higher education to discuss retention issues. Nonetheless, a concern with these models is that they do not focus on two-year institutions or on nontraditional students. Also, Tinto’s model does not concentrate on racial/ethnic, gender, and age classification (Webb, 1989).

Studies using Tinto’s model explore how social and academic integration can be applied to two-year institutions by investigating how student and institutional characteristics fit together to effect student retention (Armstrong, 2000; Borglum & Kubala, 2000). For example, Brawer (1996) looked at how Valencia Community College in Florida developed an extended orientation program which deals with how to be successful in college. He stated,

Among 1987 and 1992, 81% of the pupils who entered in the extended orientation program course were successful during their initial semester courses, in correlation to 56% of the pupils in unrelated higher education preparatory courses and 67% of the total number of pupils. Subsequently, the four semesters, 65% of the pupils who entered in the extended orientation course, continued enrollment at the college. (p. 2)

Bean and Metzner (1986) recognized that social integration may influence drop-out decisions, but their model of persistence is designed for nontraditional students. They focused
on race/ethnicity, gender, and age for these students. They believed demographics are important when working with students at community colleges, because those institutions are diverse and enroll older students more often. They recognized that social integration has little influence on community college students who decide to dropout. The Bean and Metzner model depends strongly on data generated throughout the academic year, because course completion rates differ between community colleges and universities and students’ educational goals differ between institutional types. However, the model appears to be conclusive in examining dropouts at two-year colleges more so than Tinto’s (1993) model regarding four-year institutions.

Webb (1989) created a theoretical model based on community college students’ degree of persistence. This model identified factors relating to student persistence at community colleges. Webb used the model to review variables hindering persistence at a community college. Webb used multiple regression techniques to analyze 28 factors while reviewing the records of over 15,000 students. Webb used the factors of year of birth, sex, race/ethnicity, English as a second language (ESL) status, type of high school certificate earned, ASSET [sic] score (language usage, reading, numerical skills), certainty of major, employment plans, educational goal, transfer plans, expressed need for help with finances, jobs, career choice, reading skills, writing skills, math skills, study skills, Vocational Education Program status (VEA), reason for attending, degree intent, day/evening student status, full-time/part-time student status, first semester GPA, and number of courses passed/failed first semester.

Webb (1989) found 21% of the variance in degree persistence to be an outcome of using pre-enrollment data with the vocational education program ranked as the 10th most significant
variable. Webb found 19 factors that significantly predicted student persistence to graduation in technical programs. The top three factors that predicted persistence were vocational-technical program, two-year degree plan, and student purpose for enrolling in community college. Webb believed his results were more useful in enhancing community college retention than were data reported by Pascarella, Smart, and Ethington (1985, 1986) in their research of two-year college retention.

Webb (1989) mixed the Spady (1970), Tinto (1975), and Pascarella (1980) models to perform his study. Whereas these researchers studied retention factors of traditional students at four-year colleges, Webb established a model for studying nontraditional students’ retention factors at the community college and technical program level. Bean and Metzner (1986) were also influential for Webb in developing the model. Additionally, Webb included external environment factors such as family support, childcare, jobs, etc.; academic self-confidence; and expected fit with college as important factors for community college student retention. Based on the comprehensive and relevant nature of his model, Webb’s model of community college student degree persistence was the primary guide for this study.

Importance of Technical Programs

The literature addressing the importance of technical programs appears to be limited to descriptive rather than empirical studies. O’Brien and Dixon (2002) looked at the gap between the skills that Americans possess and those that employers demand. They reasoned that the U.S. economy will become increasingly dependent upon workers from other parts of the world if U.S. industrial leaders must look to other countries to find capable workers. Further, the Bureau of Labor Statistics (2005) reported that over half of the jobs in this nation will require
Evers (2007) posited that Federal funding serves as the primary instrument for innovations and program enhancements. Federal funds contribute in large measure to the resources for the career and technical education that will help ensure a highly skilled business and industry workforce and the national economy strong. Presently, the demand for training in the most rapidly growing fields, such as information technology and health care, far exceeds the federal funding contribution. The federal government contributes over $1 billion annually to higher education. While federal level contributions support excellence in program expansion and innovation, funding from state and local levels support facilities, services, salaries, and other active overhead associated with providing higher education.

At the state level, funding for technical programs is pertinent for the effectiveness of the state’s economy. Combs (2008) in the introductory letter for the special report *Texas Works: Training and Education for all Texans* argued, “funding to public two-year institutions has not kept pace with the high demand for vocational, technical and associate degree training, even though these investments have high returns” (¶ 10). Additionally, Texas has been experiencing a shortage of skilled workers and dwindling enrollments in technical training programs. The existing group of skilled workers is aging, and too few younger skilled workers are available to replace them. According to this report, public institutions in Texas are not meeting the demands for skilled workers, because in 2007, 8,000 less workers were produced by public postsecondary technical and career training programs than were needed in jobs that year.

Without understanding the factors that influence technical program graduation rates, it will be difficult to meet the demands of the Texas workforce. Based on the literature cited
above, it is clear that community colleges must take a look at efforts to recruit, retain, and graduate students enrolled in technical programs in a timely manner. Through these efforts, Texas community colleges can ensure their communities maintain sound economies according to Combs (2008).

**Historical and Philosophical Perspectives on Community College Technical Programs**

Much of the literature addressing technical programs has been presented from a historical perspective. Smith (1998) reported that technical education dates back to the Roman period when fathers taught their sons skills through family apprenticeships. Technical programs emerged in the late 1700s through the 1800s in the U.S. After the Civil War, the first technical programs were offered at land grant institutions, following the passage of the Morrill Act by Congress in 1862. These programs were offered to address the education needs of new industries and social systems. During this time technical programs began to flourish. These “tech programs,” as we know them today, began as part of the Industrial Age in Massachusetts. Governor William L. Douglass saw a need to industrialize public education. Smith noted how Douglass recognized a need to train and educate citizens for workforce needs.

Barlow (1967) looked at how, early in the 20th century, Dewey influenced the development of technical programs. He firmly believed in John Dewey as an early advocate for vocational programs with an emphasis on learning during the World War I era. He believed individuals should have options as it related to the fields of study and practice. Dewey noted that the educational system needs to be flexible and adjust to the needs of society. Dewey argued that students learn best by doing, but doing does not require training for technical employment.
As the 20th century progressed, the U.S. government became actively involved in promoting technical programs through funding. Carl Perkins was an influential supporter of technical programs. He authorized funding initially through the Carl Perkins Vocational Education Act of 1984. This Act addressed students who were underrepresented. In 1995, Carl Perkins funds were enhanced to $1.6 billion for vocational education. This additional money was intended to strengthen vocational and technical programs. During the 20th century, the community colleges were the forerunners in providing education and training to the workforce for various jobs such as occupational and vocational. Community colleges were recognized for their contributions to business and industry and began to flourish (Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990).

Grubb (1999) outlined what he saw as the major responsibilities of technical programs. He asserted that community colleges have played a major role in training and educating a large number of mid-skilled workers in the U.S. He also postulated that modern community colleges have a major responsibility for preparing the nation’s current and future mid-skilled workforce, which accounts for three fourths of all employees in the U.S. Kantor (1997) purported that community colleges must provide an array of programs and services to address the needs of this segment of the labor force and to respond proactively to new economic forces. Warford and Flynn (2000) valued initiatives linking secondary to postsecondary education through tech prep and school-to-work transition programs for the emerging workforce as well as certification, licenses, and associate degree programs for incumbent technical workers. Kantor (1997) also believed that by serving all of the people, including immigrants and other historically disenfranchised and underrepresented groups, urban community colleges provide
the common educational ground on which people from various backgrounds come together to acquire skills for work and citizenship.

During the 1900s, training programs were commonly called vocational, but in the early 1990s, a shift in thinking occurred among community college administrators and these programs became known as technical programs. Workforce preparation, workforce development, human-resource development, and economic development were terms associated with different aspects of technical education, but typically they were more broadly defined than earlier conceptions. In fact, these labels were sometimes used to distinguish newer education and training linked to enhancing individual and organizational performance (productivity) in the workplace. Workforce preparation is most likely associated with education, training for incumbent workers, and those seeking to upgrade their skills or change careers (Wild & Ebbers, 2002).

Grubb (1999) elaborated on the many terms that have been used to describe postsecondary vocational education over the years, among them such labels as occupation, career, technical or technological, semiprofessional, sub baccalaureate, and terminal, with each of these labels having a slightly different but admittedly related intent. In attempting to sort out the unique meaning of these words, Cohen and Brawer (1996) pointed to the historical significance associated with them, such as the attachment of the terminal and semiprofessional labels to vocational education in the 1970s. Later, Grubb (1999) referred to two-year degree programs as sub-baccalaureate, focusing much of his perspective on vocational education. Technical and technological education came into prominence during the 1990s as tech prep and other forms of technical education moved to center stage. Finally, Hershey, Silverberg, Owens,
and Hulsey (1998) concluded that all of these labels continue in use within the literature. Pierce (1999) asserted that urban two-year colleges can no longer be considered marginal institutions; they are core institutions that serve a great need in this nation’s cities. Urban community colleges enroll a higher proportion of minorities than their suburban and rural two-year counterparts or most universities. As such, they are truly, as Pierce asserted, the democracy colleges at which a broad range of people choose to obtain their education. At a time when the condition of many cities is often dire, urban community colleges equip people with skills to take up jobs that will improve lives, communities, and economics. The link between industry and academia is extremely important. The educational system in general is not preparing young people for career opportunities that are available in our workforce. Addressing this issue of youth and educational opportunity, Bauman and Graf (2003) studied the U.S. population over the age of 25 and found in 2000, 80.4% of this population held a high school diploma. Among this group, 21.1% had started college but had not finished any degree; only 6.7% had earned the associate’s degree, while 15.5% held bachelor’s degrees.

The data provided by Pierce (1999) and Bauman and Graf (2003) suggested there is a severe gap in technical program enrollment and completion. These figures and arguments suggest it is critical to attract the available large population of citizens who are unskilled, untrained, or uneducated beyond the high school diploma to technical programs in order to meet the demands of the workforce. Urban community colleges have a responsibility to their local, state, and national economies and communities because they tend to be funded through local tax bases. Due to the state of 21st century economy, it is even more critical for community colleges to find ways to recruit, train, and retain students in technical programs. Many times,
students can see the short term benefit of finding employment after training provided through the two-year degree program to enhance their skills, meet needs of their families, or to acquire skills for available jobs. Urban community colleges play a vital role in addressing the needs and problems faced by the communities they serve.

Retention and Graduation Rates of Community College Students

There have been many definitions for the term retention. Wyman (1997) defined retention as “the percent of entering students graduating or persisting in their studies at an institution” (p. 29). Community colleges consider student retention as a vital part of their existence. Student retention is salient in measuring institutional effectiveness and accountability regarding the community college budget. The stakeholders in community colleges understand that accountability is important to taxpayers, legislators, and state policy makers. Community colleges administrators are being asked a multitude of questions regarding the effectiveness of the operation of the college system. It is important for the administration to address the issue of accountability and institutional effectiveness simply because it will determine the success or failure of the respective community college (Wyman).

Walleri’s (1981) definition of retention differed from Wyman’s. Walleri asserted retention “is on time graduation (within a 4-year to 5-year period)” (p. 3). He also provided another option for community colleges stating, “retention can be defined in terms of program completion” (p. 5). He elaborated “for students in special programs and community education, retention can be defined meaningfully only in terms of student objectives” (p. 4). Retention, Walleri reflected, should be defined on the platform of degree completion; it is of concern to the community college when graduation is not consistently the aim of the enrolled students.
Determining student educational goals is more challenging than merely tracking rates of graduation for community colleges.

In contrast, Terenzini (1987) defined an *attainer* as “a student who leaves prior to certificate or degree completion, but after achieving a personal goal (e.g., completion of a particular course, or acquisition of a particular skill)” (p. 22). Lohman and Dingerson (2005) suggested validity to the idea of the attainer, because they found only 4% of students ever intend to earn certificates of completion in U.S. postsecondary education institutions. Meanwhile, Burstein (1997) brought to light the nature of community colleges posing special problems for researchers interested in using student retention statistics as measures of college success.

When dealing with community colleges, Armstrong (2000) recognized researchers must deal with a two-fold problem: first, community colleges have a unique environment; second, a new way of measuring student retention has to be created to match this unique environment. These colleges enroll a significant portion of students, especially minority students, in postsecondary education, offer transfer to baccalaureate-granting institutions, remediation to students unprepared for college-level work, and strong support services for students in need (Cofer & Somers, 2000). Community colleges are more likely to be the choice of the new wave of nontraditional students.

Wright (1996) asserted that colleges and universities will have to turn out thousands of additional graduates for Texas to remain economically competitive. Moreover, it has been pointed out as far back at 1984 that schools would need about $750 million to improve their graduation rates and to develop retention programs and other measures to attract more
students ("Assessing the Student Attrition Problem," 1984). The needed amount of funding has only continued to increase over time while federal and state levels of funding for higher education have continued to decrease.

Bailey, Crosta, and Jenkins (2006) studied graduation rates at Florida’s community colleges. In evaluating their study, Jaschik (2007) noted that federal evaluations of the graduation rates are as negative as critics say they are, but when those measures are fixed statistically, the community college results as compared to other institutions do not change very much. As growing numbers of Americans enter college, most colleges and universities have failed to ensure that those students will graduate. Bailey et al. (2006) found that only 63% of full-time college students at four-year colleges graduate within six years, which is a common yardstick for measuring graduation rates, and those rates have basically remained flat for 30 years. Graduation rates are especially low for minority students and those from low-income families.

Mueller (1993) cited the case of Saint Clair County Community College that concentrated on identity issues facing Asian, Latin, African, and Native American (ALANA) freshmen. In this special program, students are set up with a peer mentor who provides the student with social and academic support, helps the student think critically, and assists the student with academic chores. Other colleges have used a combination of programs to achieve higher retention rates.

Bailey, Calcagno, Jenkins, Leinbach, and Kienzl (2005) recognized that community colleges have long been known to be open-door institutions, with an emphasis on providing a wide range of students with access to college. In the last decade, several forces converged to
bring about increased attention on the outcomes of students once they matriculated at a college, with a particular emphasis on graduation rates. One common measure of community college performance is the graduation rate for students within 150% of the normal time, which is two years, in which they would be expected to complete a degree or certificate, if they took a full-time program of courses and were academically prepared for college level courses when they began. Students in associate programs are tracked for three years, or 150% of normal time for a two-year degree, while students in certificate programs are tracked proportionally less. The graduation rate is the ratio of all students who completed a certificate or associate degree at that college within the 150% time period to the total number of students in the initial cohort.

Bailey et al. (2005) revealed that larger community colleges have lower graduation rates than smaller community colleges. Colleges with large numbers of females, minority students, and part-time students tend to have lower graduation rates than schools serving larger numbers of traditional students. They mentioned that community college leaders have refused to use graduation rates as an accountability measure for various reasons. First, community college leaders do not believe that graduation rates should be used as a measurement of accountability, because many community colleges students do not necessarily intend to earn a degree nor are they interested in transferring to four-year institutions. Second, there are several factors hindering students from graduating that are out of the purview of community colleges. For instance, many community college students have part-time jobs, families, and lack the skills for college level work. Third, because community college leaders have concerns about the student’s right to know graduation rates Bailey et al. (2006) and Jaschik (2007) addressed the notion that community college students regularly attend several colleges and often do not
graduate from the institution in which they initially entered.

Derby and Smith (2004) referred to community colleges as revolving door institutions. They held that students can attend a community college to take classes for the purpose of obtaining a two-year transferable degree or a terminal certificate, enhancing general job skills, or for personal enrichment. Students have different reasons and goals for entering a community college, making it difficult to track and study retention.

Rosenbaum, Redline, and Stephan (2007) studied community colleges graduation rates and found only 34% of students finish any degree in approximately eight years after completion of high school. Marcotte Bailey, Borkoski, and Kienzl (2005) further discovered that many students depart community colleges without a degree, course credits, or credentials. Additionally, degree completion rates vary at different types of institutions. Private four-year and two-year colleges tend to have higher completion rates than public two-year colleges.

Habley and McClanahan (2004) added to the literature through their research of private institutions and found them to be more likely to house students on campuses; their students are traditional and better prepared for college work; the schools train and prepare their academic advisors; and these institutions have mentoring, tutoring, and other retention programs in place to maintain consistent contact with their students.

Rosenbaum et al. (2007) addressed the issue of accountability and effectiveness of community colleges. They stated that to realize if the differences are similar to college influences, one must investigate institutions that enroll similar students, which was what they sought to do. Higher education is facing increasing pressure to boost its accountability to state and federal government agencies. This accountability incorporates the objective of enhancing
education for minority and low-income students and creating a more business-like environment for colleges and universities. While both are acceptable objectives, Congress is interested in utilizing graduation rates as an avenue for measuring accountability.

Rosenbaum et al. (2007) echoed Burstein (1997) in recognizing how community colleges pose a unique issue for those who want to use a single graduation rate to measure institutional effectiveness. The community college draws students with an array of educational goals and from varied backgrounds. Many community college students start with an objective of earning a two-year degree, one fourth want to complete a four-year degree, and the rest would like to earn a certification. Older students often confront requirements from employers and family, plus community activities that tend to extend the time to graduation or minimize the chances of graduating. Currently, at least 57% of all undergraduates are 21 or older. There are several factors related to age that enhance the chances of not finishing college. They include: (a) not earning a standard high school diploma; (b) having a part-time job; (c) being a single parent; (d) depending on parents for financial support; and (e) holding full-time employment while enrolled.

Rosenbaum et al. (2007) concluded that the condition of these risk factors is summative. The more risk factors a student has, the more likely he or she will not graduate from college. Institutions that enroll a large number of these at-risk students tend to have lower graduation rates than the colleges and universities that enroll large numbers of traditional students. Encouraging colleges to improve graduation rates can minimize the willingness of colleges to enroll nontraditional, low-income students. Graduation rates are a measurement being used for accountability, but it is imperative to consider the weaknesses of students who come with
unique social, economic, and ethnic backgrounds. These students should not be receiving a poorer quality of education than traditional students receive.

Graduation rates impact funding for community colleges. Therefore, studying the factors that influence community college students’ retention and graduation serves to enhance the ability of these institutions to meet the needs of their students, communities, states, and nation. Finally, by studying these factors, greater understanding of students’ rationales for completing community college courses may be broadened (Lohman & Dingerson, 2005; Rosenbaum et al., 2007).

Retention and Graduation Rates of Students in Technical Programs

Polizzi and Ethington (1998) studied the significance of student participation in two-year vocational programs. They found that vocational students tend not to participate in other student activities. These students tend to be very involved in respective vocational program activities. Many of these students are more experienced, considered older, and career focused. The average age among the participants in their study was 23. There were approximately 1,900 students representing four vocational skills (health care, technical/communication, trade/industry and business) who participated in this study. They were measured in library time, quality of work by grades and writing skills, and the level of their courses. The students enrolled in the health care field tended to participate more in activities outside of their program. They frequently visited the library, enrolled in counseling, and used tutoring labs. They established rapport with faculty members. Furthermore, the part-time students were found to be less involved than students enrolled full-time in vocational programs. There was no significant difference in outside program activities in the other three vocational groups. Overall,
career skills were the most important to the vocational students of this study.

Lohman (2003) conducted a study on students who did not complete technical programs at the Illinois Community College System. During 1996-1999, she studied student enrolled in 13 technical programs at the college. She reported that of approximately 2,000 students, 430 students did not complete the programs. She divided her study into four major categories. These four areas impacted student participation in educational and training programs.

Lohman (2003) posed four questions in collecting her data: (a) at what point during the technical program do students withdraw; (b) how do trade-related, dispositional, institutional and situational issues, cause students to withdraw from technical programs; (c) what is the relevance between variables that impacted career goals; and (d) what is the relevance between job rank and the decision to withdraw before completion of the program. Lohman found that 240 students withdrew from their technical program at the initial stage. Additionally, she found that 190 students withdrew from the program prior to earning 22 credits.

Lohman (2003) found that 56% of student withdrawals were due to trade related effects, 26% withdrew because of situational effects, 5% due to institutional effect, 3% withdrew due to dispositional effects and 18% were considered as other reasons or a combination of the four effects. Elliott (1994) and Tinto (1993) concurred that students who enroll in technical programs enroll for a particular reason; once their goal is attained they have no desire to stay at the institution. Cohen and Brawer (1996) indeed confirm that community colleges are an avenue for students to achieve their goals.

In addition, Lohman (2003) found that among the sample of 2,000 students, 85 students
enrolled in technical programs due to career goals, while 55 students mentioned that trade related effects impacted their decision to leave. It was discovered that 58 students left the program due to finding employment or receiving a higher salary. Employment status was a contributing factor to students withdrawing from technical programs prior to completion. Lohman and Dingerson (2005) concluded that evaluation is not predicated only on the number of completers who obtain certificates or degrees, but on the quantity of students who achieve their career goals.

Driscoll (2005) reviewed career and technical education and how this type of education impacts the workforce on a national scale. According to the Southern Regional Education Board, career and technical education provide effective and proven links to skill-building and academic opportunity as well as improved employment outcomes. Driscoll sought evidence for this claim. Among the evidence, students completing a rigorous academic core coupled with a career concentration have test scores that are equal to or higher than those of students considered to be college prep, are more likely to pursue postsecondary education, have a higher grade point average in college, are less likely to drop out in the first year, and have better employment and earning outcomes than other students.

Another claim Driscoll (2005) sought evidence for was whether employers across the nation continue to need well-trained workers with good skills. A 2002 survey funded by the U.S. Chamber of Commerce’s Center for Workforce Preparation revealed that the education and training supported by Perkins are vital to addressing this skills gap. Nearly 75% of employees report that it is difficult to hire qualified workers; 40% say that applicants are poorly skilled; and
30% say that applicants have the wrong skills for available jobs. Formal training and education appears to be valuable for improving employers’ hiring efforts.

Driscoll (2005) recognized that career and technical education serves millions of Americans in a variety of settings. One third of college students are involved in career and technical programs, and as many as 40 million adults engage in short-term postsecondary occupational training period. Career and technical education is offered in middle schools, high schools, two-year community and technical colleges, and other postsecondary schools. According to the National Center for Education Statistics (2008), 54% of all adults aged 16 to 64 enroll in formal learning at colleges and technical programs.

Dougherty (1992) stated that although community colleges stress vocational education, some 30% to 40% of entering students have plans of going on to obtain baccalaureate degrees. These students tend to be less academically skilled, less ambitious, and from poorer families than students entering four-year institutions. Several studies have found that even students with similar disadvantages who enroll at four-year schools are more likely to wind up receiving bachelor’s degrees than their counterparts at community colleges.

The reason for the differences, Dougherty (1992) suggested, is that community college students encounter institutional obstacles all along the way. They rarely have the opportunity to live on campus, and thus have a weaker commitment to staying the course during the often difficult early college years. Entering community college students are 10% to 18% more likely to drop courses or drop out than their counterparts at four-year schools. Another hurdle is transferring to a four-year institution. Many four-year institutions are reluctant to take transfer students. Only half the baccalaureate applicants manage to make the move without help from
community college faculty and advisors, whose efforts are concentrated on vocational education. Students who do transfer face obstacles, and are often denied financial aid and credit for community college courses. Transfer students frequently find themselves poorly prepared to meet the new academic demands and often find it hard to fit into four-year college social life.

According to Weidenthal (1989), for the most part, students who attend urban community colleges have to work to make ends meet; many students are married and support families. Their responsibilities keep them very focused. The students’ successful work ethic and the supportive learning environments at these community colleges strengthen the economic and civic fabric of cities. In the process, students are mainstreamed into the local economy. Often they sustain or revitalize inner-city areas, as in the case of LaGuardia Community College in New York, which has spearheaded the transformation of a formerly depressed section of western Queens. Similar inner-city revivals, spurred by the central location of urban community colleges can be found in Pittsburgh, Dallas, Jacksonville, and elsewhere.

In conclusion, as the researchers referenced here have discussed, metropolitan areas have the opportunity to serve the bulk of potential technical education enrollees. The literature speaks to the fact that more qualified and educated workers are needed to fill the demands of the current workforce. Given the likelihood that citizens must develop additional skills to enter and improve their positions in the workforce, understanding their goals and the factors contributing to the likelihood of their completing technical programs is critical to meeting the needs of the local, state, and national economy.
Summary

There is abundant literature that addresses community colleges, retention, persistence, and graduation rates. However, very little research on three-year graduation rates of students in technical education programs at an urban community college exists in the literature. The literature has focused on the evaluation of technical programs and placed emphasis on the cost of technical programs. The literature clearly states that it is very expensive to operate technical programs. While investigating these technical programs, it was discovered that Carl Perkins funds are vital to the operation of technical programs. Tinto (1993) and Astin (1993a, 1993b) conducted several studies on retention, persistence and graduation, but their focus was primarily on students attending universities. Tinto attempted to apply his persistence model to community colleges, but his model failed to place adequate emphasis on subgroup characteristics, such as those related to race/ethnicity, age, and gender. Community colleges serve a large number of nontraditional students and the Tinto and Astin model does not address these groups. To this end, it is imperative for community college administrators and faculty members to begin focusing on innovative strategies to address retention and graduation rates in programs at urban community colleges. However, there are models available, such as that by Webb (1989), to address the needs of the students served at urban community colleges. The present study used the Webb model primarily to bridge a gap in the literature.
CHAPTER 3

METHODOLOGY

The purpose of this quantitative study was to determine factors contributing to the three-year graduation rates of students enrolled in technical programs at the Northwest Campus in Tarrant County College District (TCCD). The design was causal comparative and assessed factors contributing to three-year graduation rate of students in technical programs. This chapter presents the methodology used in this study.

A quantitative approach was selected for this study because this approach is considered one of the dominant types of educational research for the purpose of generalizing results to a larger population (McMillan, 2002). A quantitative study validates or disaffirms the tested hypothesis, thereby narrowing the chances of multiplicity of research results (Creswell, 2003). Leedy and Ormrod (2001) postulated, “Quantitative research is used to answer questions about relationships among measured variables with the purpose of explaining, predicting, and controlling a phenomenon” (p. 101).

Theoretical Framework

Webb’s (1989) model of community college student degree persistence was used primarily to examine the retention and persistence rates at an urban community college. Webb’s research model was more applicable to this retention focused study because of the focus on student degree persistence and non-traditional students. By contrast Tinto’s research model was primarily on traditional students which proved to be inappropriate for the scope of this research. Tinto (1987) did not use age, gender, race/ethnicity, or two-year degree plan variables in his research. One of Tinto’s major findings is that there is a strong relationship
between high social integration into the traditional college environment and students’ level of retention. However, Webb posits that at best social integration could have an indirect effect on degree persistence. The purpose of this research study was important because community colleges have been mandated to render service to the community.

Research Design

The design of this study was causal-comparative (Gall, Borg, & Gall, 1996) and a longitudinal cohort study. Nonparametric bivariate correlations techniques were used to analyze the categorical data for the purpose predicting factors that contributed to the three-year graduation rates of students in technical programs. A benefit of using the crosstabulations is it allows for the examination of each independent and dependent variable pertinent to this study. The researcher endeavored to determine or explore the factors, or predictors, that contribute to the three-year graduation rates of students in technical programs at an urban community college. According to Gall et al. (1996), a detriment/drawback of this research design is that researchers may be tempted to assess all probable variables at once in a sort of fishing expedition. This fishing expedition, or shotgun approach, may lead to salient findings that are caused by spurious correlations rather than a logical or theoretical rationale. Another limitation of the causal-comparative design is the inability to confirm cause-and-effect relationships.

Site Determination

This research study was conducted at an urban community college. The selection of TCCD for this study was determined by two important factors: First, a sample population that
had been created by another survey. Second, the campus provided a database on students’
diversity of technical programs, collegial faculty and administrators, and quality retention and
graduation rates.

Population of the Study

The sample population in this cohort study consisted of 191 technical students who
participated in the Declaring a Major and Filing a Degree Audit Project in the fall of 2005 at this
urban community college campus. Tarrant County College Northwest Business/Science Division
provided a list of technical students who participated in the fall 2005 study. The specific and
current status of this cohort of students was unknown to the researcher prior to the inception
of this investigation.

Survey Instrument

A survey instrument was designed by the researcher. The 27 question instrument was
designed to measure the technical students’ perceptions of factors that contributed to their
three-year graduation rate. The questions were based on Webb’s (1989) research model and a
1996 THECB’s state-wide survey of vocational/technical program students. Data were collected
regarding educational, personal, and other experiences of students while they were enrolled in
their technical program at the urban community college.

The surveys provided respondents a level of anonymity, because the researcher and the
respondents never saw each other. Often respondents answer questions more honestly by
survey than during a face-to-face interview (Leedy & Ormrod, 2001). A challenge of using
surveys is lack of response. Respondents tend not to respond to surveys if there are no
incentives offered for their participation. Additionally, the halo effect, in which respondents tend to rank themselves on a higher level in an effort to meet the perceived expectation of others, could have biased the survey data and generated suspect data from a validity and reliability point of view (Alfone, 1997).

Validity and Reliability

Silverman (2008) was consulted to ensure the validity of the survey. She validated modeling the current survey on the Texas Higher Education Coordinating Board’s (THECB, 2007) 1996 survey. The THECB survey also measured factors regarding the reasons students were completing or not returning to vocational programs in Texas community colleges. The validity of the THECB survey was supported by its previous administration to survey students in vocational programs, according to Silverman. Additionally, targeted members of the TCCD Northwest faculty were consulted for their expertise in the validation of the content in the survey.

Lohman and Dingerson (2005) and Webb (1989) studied students representing urban community colleges and have provided a framework for reliable survey methods with technical student participants. These researcher’s methods were followed because very few researchers survey students to learn about the effectiveness of programs and why these students did or did not complete their programs. The data generated through the survey respondents were self-reported, which can generally be considered suspect regarding reliability. However, for this study it was assumed the respondents would be honest.

Procedures for the Collection of Data

Permission was obtained to conduct research involving the use of human subjects from
both TCCD (Appendix A) and the University of North Texas (Appendix B). The services of Finley’s (2008) SurveyMonkey.com (Appendix D) were used to disseminate the surveys and gather the data for this study. SurveyMonkey.com was accessed through a Web site that allowed the researcher to develop and post the survey to the Web site and to provide a link for participants to use in order to take the survey. An electronic survey was selected due to the reliability of return rates and the low cost of distributing the anonymous survey in this manner. Each participant was assigned a number to designate their participation. Only the researcher could access the data as the site and data were password protected.

The first electronic mailing of the link to the survey was sent to 191 participants on July 23, 2008. The electronic mailing included the cover letter from the author, the consent form, and the secure link to the survey using the Survey Monkey website which directed participants to the technical student survey instrument (Appendix C). Prior to sending the first message, the researcher contacted participants for their most current email addresses based on records from the 2005 project detailed above.

An electronic message was emailed to all student participants approximately two weeks following the first electronic mailing to fulfill two purposes. The first purpose was to increase the response rate by sending the same survey information to the participants Campus Cruiser email the official email of Tarrant County College or personal email accounts. This second electronic message was also used to thank each respondent who returned the survey, while non-respondents were reminded to take the survey at their earliest convenience.

The third message was emailed out approximately two weeks following the second message as a final reminder to return the completed survey. This email consisted of a cover
letter, the consent form, and the link to the technical student survey.

The established, absolute deadline for the electronic collection of data via electronic means was September 1, 2008. The goal was to receive a 45% response rate. On September 1, 2008, because of the low return rate permission was requested from the University of North Texas Institutional Research Board (UNT IRB; Appendix B) to disseminate the survey via U.S. mail on September 10, 2008. The IRB approved the request. The U.S. mailing occurred on September 10, 2008. Within the envelopes were the approved cover letter from the UNT IRB office, the consent form, the technical student survey, and a return envelope. Due to the extension for data collection, October 1, 2008 became the absolute deadline for the collection of the paper copies of the data. Through the various methods of collecting data, a 45% return rate was achieved.

Procedures for Analysis of Data

The data were entered and stored in SPSS version 16.0. This statistical software package, produced by SPSS, Inc. (2007), was used to perform descriptive and comparative analyses of the data. All demographic information was evaluated by using frequency counts to give a profile of the factors that contributed to the three-year graduation rate of technical students at the urban community college campus under study. The three research questions in this study were as follows:

1. What are the distinct demographic factors that contribute to the three-year graduation rate of technical students?

2. What are the distinct academic factors that contribute to the three-year graduation rate of technical students?
3. What are the distinct non-academic factors that contribute to the three-year graduation rate of technical students?

Each research question led to the use of bivariate correlation between the factors of the question and the graduation rate of technical students. The Cramer’s $V$ correlation coefficient was used because data points were categorical and at least one of the two variables is not dichotomous (Howell, 2001; Huck, 2004; Triola, 2001). In addressing the research questions, cross tabulations were generated and Cramer’s $V$ was applied to test the significance and strength of the relationship of variables.

The dependent variable in this study was the number of years it took a technical student to graduate. The salient demographic characteristics of technical students (i.e., independent variables or factors) were ethnicity, age, gender, gross annual income, family educational background, marital status, and number of dependent children. The academic factors were degree plan status, when the plan was filed, declaration of major, major, previous experience attending college, advising, and access to faculty mentors and office hours. The non-academic factors were role of sole caretaker, commute to job distance, current field of employment, length of time in current employment field, student organization involvement, working off campus while enrolled at TCCD, access to student organizations, career counseling, and academic skill development. The Cramer’s $V$ correlation coefficients between the factors and the dependent variable were estimated by analyzing the data in crosstabulations via SPSS 16.0.
CHAPTER 4
RESULTS AND FINDINGS

The purpose of the study was to determine factors contributing to the three-year graduation rate of students in technical programs at an urban community college. Of the 191 surveys mailed, 96 surveys were returned either by U. S. mail or by electronic methods. Due to limited responses on 19 returned surveys, they were removed from the final sample of surveys. Only surveys with complete information were used for the analysis of the data. The targeted population for the surveys was students enrolled in TCCD Northwest campus technical programs between fall 2005 and fall 2008. They were specifically enrolled in accounting, business management, horticulture, and computer science programs. These technical programs are designed for a three-year completion time period. This chapter describes the results obtained when the hypotheses were tested. The findings from the survey resulted in distinct factors influencing the three-year graduation rate.

The Three-Year Graduation Rate for Technical Students

The outcome variable for the study was the three-year graduation rate for the technical students in order to differentiate students who graduate in three years or less from those students who failed to graduate or who took more than three years to graduate. The outcome variable was made up of two categories. The first category contained those who graduated in three years or less with original responses with a value of 1, 2, and 3. The second category contained those who did not graduate or who took more than three years to graduate with the original responses with a value of 0 and 4, 5, 6, and 7. These two variable categories represented the outcome variable for testing the hypotheses.
For the item asking the students about the number of years it took them to graduate and whether they did graduate, a response rate of 85% was reported. For the total sample 18.2% graduate in three years or less. This was a statistically significant result for graduation in three years by graduation from TCCD Northwest Campus with the Cramer’s $V = .543$, $p = .0001$.

Distinct Demographic Factors that Contributed to the Three-Year Graduation Rate of Technical Students

The first research question examined the distinct demographic factors that contributed to the three-year graduation rate of technical students. The demographic factors that were correlated with the outcome variable were age, gender, ethnicity, marital status, family education background, number of dependent children, and gross annual income. The demographics of the population involved an age range of individuals participating in the study of 18 years of age and older. The 27-35 age range, which represents the average age for TCCD Northwest students, is second in sample numbers due to their higher numbers in matriculation. Of the 18.2% of students who graduated in three years or less ($n=14$), students age range of 21-35 had the highest graduation rate (7.8%). In contrast, of the 81.8% of students who did not graduate or graduated in more than three years, students age 36 and older had the highest non-graduation rate (37.7%). The Cramer’s $V$ correlation coefficient of 0.385 was found to be statistically significant ($p = .010$). Table 1 displays the results for the correlation and cross tabulations for all respondents by presenting the correlation coefficient and the percentages between the variables’ categories.
Table 1

*Graduation Time by Age*

<table>
<thead>
<tr>
<th>Graduation Status</th>
<th>18-22</th>
<th>23-26</th>
<th>27-35</th>
<th>36+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated in 3 years or less</td>
<td>3.9%</td>
<td>6.5%</td>
<td>7.8%</td>
<td>0%</td>
</tr>
<tr>
<td>Did not graduate in 3 years or less</td>
<td>10.4%</td>
<td>10.4%</td>
<td>23.4%</td>
<td>37.7%</td>
</tr>
<tr>
<td>Total for Sample</td>
<td>14.3%</td>
<td>16.9%</td>
<td>31.2%</td>
<td>37.7%</td>
</tr>
</tbody>
</table>

*Note. Cramer’s V=.385, p=.010*

Out of the 77 respondents in the sample, 45 females graduated in three years or less with a 58.7% success rate. Conversely, only 41.3% of males (n=32) graduated in three years or less. The correlation coefficient for graduation rate and gender (Cramer’s V=.012) was extremely low and not statistically significant. The female respondents graduated at a higher rate than the male respondents. Those females in the study who were White and developed academic degree plan within the first-two semesters represented a higher graduation rate. Regardless of whether they developed a degree plan or not, females graduated at a higher rate than males who developed and academic degree plan within the first two semesters.

For the 77 respondents, the racial or ethnic representation was 53.2% White, 19.5% Black, 15.6% Hispanic or Latino, 5.2% Asian/Pacific Islander, 2.6% American Indian or Alaska Native, and 3.9% Other. For the total sample, among White students, 7 out of 41, or 17.1%, graduated within three years; among Black students, 4 out of 15, or 26.7%, graduated within three years; and within the Hispanic/Latino ethnic category, 3 out of 12, or 25.0%, graduated in
three years or less. The Cramer’s V of .202 (p=.679) was not statistically significant, possibly due to the small sample size and large number of categories representing the ethnicity variable.

Of the 77 respondents, 46.8% were single and 40.3% were married, while only one respondent reported being divorced. The graduation rates for the single (n=8) and married (n=5) respondents were similar. Additionally, the correlation coefficient between graduation time and marital status (Cramer’s V=.120) was not statistically significant (p=.777).

Of the 77 respondents, 52.6% reported being the first person in the family to attend college. Students who were the first person in their families to attend college reported a graduation rate of 8 out of 77, or 10.5%. First generation students represented 57.1%, or 8, of the 14 respondents graduating in three years. Only two students who graduated within three years reported both parents having college degrees. The correlation coefficient between family educational background and graduation rate (Cramer’s V=.187) was not statistically significant (p=.449).

For the 42 students without dependent children, 54.5% graduated in the three year time frame. On the other hand, for the two students who had five children, just one of them graduated in the three year time frame. The 42 respondents with no children showed an overall the graduation rate of 11.7% out of the sample of 77 respondents. The correlation coefficient between number of dependent children and graduation rate (Cramer’s V=.299) was not statistically significant (p=.143), which might be attributed to the small sample size.

Of the 77 respondents, 8.2% annual gross income is less than $10,000, 13.7% have an annual gross income between $10,001 and $20,000, 23.3% have an annual income between $20,001 and $30,000, 19.2% have an annual income between $30,001 and $40,000, 13.7%
annual income between $50,001 and $60,000, 4.1% annual income between $60,001 and $70,000 and 4.1% have an annual income higher than $70,000. For the total sample, the data showed 5.5% of those students whom have gross annual income between 50,001 and 60,000 were the highest to graduate within three years or less. The resulting correlation coefficient between gross annual income and graduate rate (Cramer’s V=.347) is not statistically significant (p=.267).

Distinct Academic Factors that Contributed to the Three-Year Graduation Rate of Technical Students

The second research question examined the distinct academic factors that contributed to the three-year graduation rate of technical students. The academic factors that were correlated with the outcome variable were preparation of an official degree plan, timing of when the plan was prepared, declaration of a major, obtaining academic advising within the first two semesters of enrollment, access to faculty mentors, access to faculty office hours, and previous college attendance.

Of the 77 respondents, 66.2% (n=51) prepared an official degree plan, a document designed to help chart academic progress while attending TCCD Northwest. The respondents with official degree plans filed reported an overall graduation rate of 16.9% out of the sample of 77 respondents. The correlation coefficient between official degree plan and graduation rate (Cramer’s V=.265) was statistically significant (p=.020). Table 2 represents these results.
Table 2

**Graduation Time by Preparation of Official Degree Plan**

<table>
<thead>
<tr>
<th>Graduation Time</th>
<th>Prepared Official Degree Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (n=13)</td>
</tr>
<tr>
<td>Graduated in 3 years or less</td>
<td>16.9%</td>
</tr>
<tr>
<td>Did not graduate in 3 years or less</td>
<td>49.4%</td>
</tr>
<tr>
<td>Total for Sample</td>
<td>66.2% (n=51)</td>
</tr>
</tbody>
</table>

*Note. Cramer's V=.265, p=.020*

Of the 77 respondents, 32.5% (n=25) prepared a degree plan within the first semester, 9.1% during their second semester, 11.7% at third semester, 7.8% during fourth semester, 2.6% for the sixth semester the rest of at 36.4% did not respond to the inquiry on obtaining of a degree plan. For the total sample, the data showed 9.1% (n=7) of those who obtain a degree plan were able to graduate within three years or less. The Cramer’s V of .322 (p=.157) was not statistically significant, possibly due to the small sample size.

Approximately 58.4% of the 77 respondents declared a major and graduated within three years. Likewise, among the 63 respondents who did not graduate in three years, 71% of them had declared a major. For those who did graduate in three years, 13 out of 14 students, or 92.9% of the graduating group, had declared a major, while for the group of respondents who did not graduate in three years, only 50.8% out of these 63 respondents had declared a major. The Cramer’s V correlation coefficient for declaration of a major and graduation rate was 0.329, a statistically significant value (p=.004). Table 3 depicts these results.
The respondents who majored in horticulture produced a significantly higher graduation rate than the other technical programs mentioned in this study. The students who majored in computer hardware and business displayed a 100% graduation rate within three years. The Cramer’s V correlation coefficient for major at TCCD Northwest Campus and graduation rate was 0.493, a statistically significant value ($p = .028$). Table 4 depicts these results.

### Table 4

**Graduation Time by Major**

<table>
<thead>
<tr>
<th>Graduation Time</th>
<th>English</th>
<th>Horticulture</th>
<th>Computer Hardware</th>
<th>Accounting</th>
<th>Business</th>
<th>Economics</th>
<th>Insurance</th>
<th>Airlines</th>
<th>Police Officer</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated in 3 years or less</td>
<td>3.9% (n=3)</td>
<td>11.7% (n=3)</td>
<td>5.2% (n=4)</td>
<td>11.7% (n=4)</td>
<td>0% (n=0)</td>
<td>1.3% (n=1)</td>
<td>0% (n=0)</td>
<td>1.3% (n=1)</td>
<td>1.3% (n=1)</td>
<td>0% (n=0)</td>
</tr>
<tr>
<td>Did not graduate in 3 years or less</td>
<td>16.9% (n=13)</td>
<td>11.7% (n=9)</td>
<td>6.5% (n=5)</td>
<td>11.7% (n=9)</td>
<td>1.3% (n=1)</td>
<td>1.3% (n=1)</td>
<td>1.3% (n=1)</td>
<td>1.3% (n=1)</td>
<td>0% (n=0)</td>
<td>44.2% (n=34)</td>
</tr>
<tr>
<td>Total for Sample</td>
<td>3.9% (n=3)</td>
<td>11.7% (n=9)</td>
<td>6.5% (n=5)</td>
<td>11.7% (n=9)</td>
<td>1.3% (n=1)</td>
<td>1.3% (n=1)</td>
<td>1.3% (n=1)</td>
<td>1.3% (n=1)</td>
<td>51.9% (n=40)</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Cramer’s V = .493, $p = .028$
Respondents represented a number of influences being positive to their graduation, even though the resulting correlation coefficients were not statistically significant. The survey data showed that 69.2% of the respondents who graduated within three years \( (n=14) \) indicated that academic skill development had a positive influence on their graduating in three years. Participants, out of the sample of 77 returned surveys, who indicated that access to faculty was a positive influence graduated at a higher rate of 71.0%. On the other hand, 21.4% of respondents indicated that faculty access had no influence, and 7.1% indicated that faculty access had negative influence. Among the respondents who graduated in three years, 71.4% reported the ability to access faculty members during office hours had a positive influence on their three-year graduation. But 21.4% reported such access as having no influence. Finally, 7.1% reported such access to faculty during office hours had a negative influence on their graduation.

Of the 18.2% of students who graduated in three years or less, students with previous college experience prior to attending TCCD/ Northwest graduated at a similar rate \( (n=8) \) as those without previous college experience \( (n=6) \). In contrast, of the 81.8% of students who did not graduate or graduated in more than three years \( (n=63) \), students with no previous college experience prior to attending TCCD/ Northwest did not graduate at a rate of 48.1% for the non-graduating students, while those with prior college experience did not graduate at a rate of 33.8%. Even though the correlation coefficient was not significant for previous college experience and graduation, the percent difference between the non-graduating students was observable and 14.3%.
Distinct Non-Academic Factors that Contributed to the Three-Year Graduation Rate of Technical Students

The third research question examined the distinct non-academic factors that contributed to the three-year graduation rate of technical students. The non-academic factors that were correlated with the outcome variable were influence of career counseling, involvement in student organizations during TCCD enrollment, status as sole caretaker of an elderly or disabled parent, distance of commute to work, current field of employment, number of years employed, and number of hours employed off-campus per week while enrolled at TCCD.

For the sample and regardless of graduation status, 47.3% indicated a positive influence by career counseling, 5.4% a negative influence, and 47.3% no influence. The Cramer’s V correlation coefficient of .251 was not significant for the sample, but its associated p-value approached significance at .097.

Table 5

*Influence of Career Counseling on Graduation Time*

<table>
<thead>
<tr>
<th>Graduation Time</th>
<th>Career Counseling</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative Influence</td>
</tr>
<tr>
<td>Graduated in 3 years or less</td>
<td>1.4% (n=1)</td>
</tr>
<tr>
<td>Did not graduate in 3 years or less</td>
<td>4.1% (n=3)</td>
</tr>
<tr>
<td>Total for Sample</td>
<td>5.4% (n=4)</td>
</tr>
</tbody>
</table>

*Note. Cramer’s V=.251, p=.097*
The participants who were not involved in student activities reported a higher graduation rate of 81.8%. Only 12 (or 15.6%) students involved in student organizations graduated within the three-year time frame showing a graduation rate of 3.9%. The Cramer’s V of .105 ($p=.657$) was not statistically significant. This may due to the small sample size.

Students’ responsibility for parental care did not impact the student’s ability to graduate within three years for this sample. For the sole caretaker of an elderly or disabled parent variable, 48 participants in the sample of 77 did not respond to the item. Of the 29 participants who did answer, only 1 person responded as being the sole caretaker and also graduating within three years. Fourteen of the 29 reported both not graduating and being the sole caretaker. The Cramer’s V correlation coefficient was not statistically significant for the variables of sole caretaker and graduation time.

Of the 14 students who graduated in three years or less, students who commuted between 0-5 miles (5.25%) and between 16-30 miles (5.4%) to get to their employment had the highest graduation rates, while students who commuted 6-15 miles and 30+ miles to get to their employment each represented sample equally at 3.9% each. In contrast, for the 63 students who did not graduate within three years, those commuting between 6-15 miles to their jobs represented 29.9% of the non-graduating student group, and students commuting 16-30 miles to their employment represented 26.0% of the non-graduating student group. The Cramer’s V of 0.206 ($p=0.354$) was not statistically significant, possibly due to the small sample size.

Of the 77 respondents, the length of time they been employed in their current field was 21.3% for zero to one years, 29.3 % for two to four years, 6.7% for five to seven years, 14.7% for
eight to 10 years, and 28.0% for 10 or more years. The graduation rates for those reporting two to four years of employment \((n=5)\) and zero to one year of employment \((n=5)\) were equal. Employment lasting longer than four years dramatically decreased the represented graduation rate to 1.3% \((n=1)\). The correlation coefficient between graduation time and years of employment in current field (Cramer’s \(V=0.270\)) was not statistically significant \((p=0.242)\).

More survey participants were currently employed in administrative positions than in any other field \((22.1\%, n=17)\). Interestingly, 33.8% of the 77 respondents provided no response regarding their current job field. For the 14 respondents in the sample who graduated, three were employed in advertising, one in accounting, and two each in each of the following three fields of administrative, science, and government fields. Fifteen of the 63 non-graduating respondents were employed in the administrative field, while six were employed in advertising and another five in the business office field. The correlation coefficient between graduation time and years of employment in current field (Cramer’s \(V=0.428\)) was not statistically significant \((p=0.228)\), probably because of the large number of employment field categories and the size of the sample.

For students who were employed off campus, the number of hours employed per week was reported. Only 10 participants did not respond to the item regarding their number of hours of employment. Out of the 11 participants who were employed 20 to 30 hours weekly, two graduated, while for students employed 40 or more hours per week, eight graduated. Ten of the 14 graduating students \((71.4\%)\) were employed 20 or more hours per week. For the non-graduating group, 47 of 63 respondents, or 74.6%, worked 40 or more hours per week. While
the Cramer’s V coefficient was .251, the p-value was .301; the number of categories may have influenced the likelihood of significance.

Additional Results for Students Who Did Not Graduate in Three Years or Less

Among the 63 students who responded to the survey, additional data for the respondents who had not graduated in three years were reviewed. Even though 33.0% provided no response to the cause of why they did not graduate from their technical program in three years, 3.3% of the participants specified that a poor grade may have caused their incompletion. Only 1.1% of the 63 non-graduating students reported military deployment as the cause of their withdrawal from college, and 4.4% indicated that financial reasons were the cause for their non-graduation.

For the 63 who did not graduate within three years, 51.6% do plan to return to continue their technical program, while only 15.4% indicated no plan to return to the college, and 30.8% had no response regarding their plans. A troubling 20 of out 77, or 26%, participants did not respond to this item, but 37 of the 63, or 58.7%, non-graduating in three years respondents had plans to return to school. The respondents’ potential plan to return to TCCD Northwest Campus variable demonstrated a Cramer’s V correlation coefficient that approached significance, suggesting a slightly larger sample size might have generated statistical significance for the correlation. Table 6 depicts these interesting results.
Table 6

*Graduation Time by Potential Plan to Return to this Campus*

<table>
<thead>
<tr>
<th>Graduation Time</th>
<th>No Response</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated in 3 years or less</td>
<td>9.1% (n=7)</td>
<td>5.2% (n=4)</td>
<td>3.9% (n=3)</td>
</tr>
<tr>
<td>Did not graduate in 3 years or less</td>
<td>16.9% (n=13)</td>
<td>48.1% (n=37)</td>
<td>16.9% (n=13)</td>
</tr>
<tr>
<td>Total for Sample</td>
<td>26.0% (n=20)</td>
<td>53.2% (n=41)</td>
<td>20.8% (n=16)</td>
</tr>
</tbody>
</table>

*Note. Cramer’s $V=0.274$, $p=0.056$*
CHAPTER 5
SUMMARY, CONCLUSIONS, IMPLICATIONS FOR PRACTICE, AND RECOMMENDATIONS

The purpose of the study was to determine factors contributing to the three-year graduation rate of students in technical programs at an urban community college. The results were provided according to three categories of variables that might have contributed to the students’ graduation rates. These were demographic, academic, and non-academic. This chapter provides a discussion of the study, conclusions, implications for practice, and recommendations for future study.

This researcher achieved the purpose of the study to determine factors that contributed to the three-year graduation rates of students enrolled in technical programs at TCCD Northwest campus. It was accomplished by discovering the relationship between the following contributing factors affecting the three-year graduation of technical students at the urban community college: demographic, academic, and non-academic. Three research questions were addressed in this study:

1. What are distinct demographic factors that contribute to the three-year graduation rate of technical students?

2. What are the distinct academic factors that contribute to the three-year graduation rate of technical students?

3. What are the distinct non-academic factors that contribute to the three-year graduation rate of technical students?

This study was limited to four technical programs offered at TCCD Northwest Campus during the fall 2005 semester. These programs included accounting, business management,
horticulture, and computer science. Data were collected to investigate avenues to motivate students to proceed in technical programs and graduate in three years. Only 18.2% of the 77 respondents graduated within three years. The demographic, academic, and non-academic factors of the urban college’s technical students were detailed in this study. The findings are discussed and interpreted into conclusions for the demographic, academic, and non academic factors investigated in this study of technical students.

Distinct Demographic Factors that Contributed to the Three-Year Graduation Rate of Technical Students

The results of this study show that females who had established a degree plan and declared a major during the first two semesters at the urban community college campus under study graduated in three years. This finding reflects Tinto’s (1987; 1993) conclusions regarding females graduating from college at a faster rate than males. This is a current trend within this vein of research for other types of academic programs. Interestingly, the females in this study were graduating in fields once dominated by males in the last decade (Adebayo, 2008).

The graduation rates for males in this study were lower than for females. There is a substantial amount of research that addresses the reduction in enrollment over time by males in higher education (Tinto, 1987; 1993). Wortham (2000) posits that by 2010 men will be 25% less likely to graduate from college than their female counterparts. It becomes more difficult for men to find employment due to a lack of education and inadequate skills (Weidenthal, 1989).

Very noticeable in the results was the fact that not one respondent aged 36 years and older reported graduating within three years. Technical students aged 18 to 35 years were more likely to graduate. The literature supports these results, because older students tend to
extend their time to graduation or minimize their chances to graduate due to requirements from employers, families, and other community activities (Rosenbaum et al., 2007). According to Elliott (1994), a high percentage of students at urban campuses are nontraditional and have responsibilities that force them to leave school before reaching their educational goals. However, Weidenthal (1989) concluded for the most part, students in urban community colleges are married and support families, and he argued that their responsibilities keep them very focused. Such factors did not influence the findings in this study.

The majority of technical students responding in this study were first generation, meaning they were the first in their family to attend college. These students often lack the support system needed to complete a degree (Phillippe, 2000). They lack experience and are the first to chart new waters for their families. No one in their immediate family serves as a role model for completing the technical program or associate degree. Phillippe’s findings are poignant for this study in which only one person reported both parents graduating from college.

Distinct Academic Factors that Contributed to the Three-Year Graduation Rate of Technical Students

Students who did not complete a degree plan in the first two semesters did not graduate in the three-year time frame. The degree plan is vital to successful graduation from technical programs in three years. This finding supports research showing that degree plans can be pivotal to a students’ successful completion of a technical program in three years (Bean & Metzner, 1986).
From this study’s results, students were more likely to graduate if they declared a major. Declaration of a major and establishing a degree plan go hand in hand. Degree plans can be used by the students’ advisors to assist them with successful academic and social integration into their urban community colleges (Webb, 1989). Declaring a major and having a degree plan stops proliferation of unneeded class hours by the technical student. The declaration of a major helps the student determine what is required of them to earn their chosen degree. Students with a major who follow their degree plans in a timely manner are adhering to well developed academic road maps that lead them to program completion and graduation (Bean & Metzner, 1986).

Distinct Non-Academic Factors that Contributed to the Three-Year Graduation Rate of Technical Students

Regardless of whether or not they graduated, students in this study viewed career counseling as a positive influence. Zwerling (1980) suggested that providing career counseling at times that are convenient for nontraditional aged students would improve retention. This survey’s respondents have supported Zwerling’s recommendation.

Surprisingly, the finding that student organization involvement did not improve the three-year graduation rate for this sample directly contradicts Tinto’s (1983, 1997) theory of social integration which was developed in university environments. Involvement on the community college campus did not impact these technical programs’ graduation rates. This finding may be due to characteristics of nontraditional students discussed earlier in this chapter.
Additional Discussion on Students Who Did Not Graduate in Three Years or Less

The majority of the students in this study who did not graduate reported a willingness to return to their technical programs. Wild and Ebbers (2002) report the importance of a tracking system for ensuring these students do complete their programs. As discussed in the academic factors, students need degree plans to guide them toward program completion. This group of respondents did not have degree plans. With their interest in returning, a tracking system could ensure their readmission to their programs.

Conclusions

A number of conclusions can be drawn from the findings in this study of three-year graduation rates of technical program students. These conclusions carry weight for the future of such programs. The discussion of the findings resulted in the following conclusions:

1. Too few students graduate from technical programs in three years.
2. Very few male students graduate from technical programs in three years.
3. Nontraditional aged students who are 36 years and older do not graduate from technical programs in three years.
4. Student who declare a major and prepare a formal degree graduate from technical programs in three years.
5. Technical programs do not have a systematic method for retaining students.

Implications for Practice

Research and practice indicate that an effective retention plan emphasizes the tracking, academic advisement, counseling, and mentoring of technical students (Wild & Ebbers, 2002).
There is compelling evidence in this study that a plan that includes these components should be used to improve three-year graduation rates for students in technical programs.

President Barak Obama’s (2008) infrastructure plan will call for more skilled workers to rebuild roads, highways, and bridges. He proposes to create millions of jobs by making the single largest new investment in the United States infrastructure since the creation of the federal highway system in the 1950s. Because Americans need adequate skills and knowledge to compete in our worldwide economy, the President is looking to community colleges to provide people the skills to build the roads and to improve the economy (Allen & Martin, 2008).

Approaches are required to enhance the United States’ educational system so its citizens can have better futures. Young Americans often enter in the workforce without any formal education beyond high school. It is imperative that American citizens receive proper education, training, and skills in order to enhance their families’ economic statuses in the 21st century. According the Bureau of Labor Statistics (2005), currently over half of the nation’s jobs require post-secondary education. Investing in community college and technical career education will assure fair opportunities to experience the American dream, as promised by President Obama (2008). The President clearly understands the importance of businesses, schools, and energy working together to ensure that our workforce adheres to the conditions of our current world. Consequently, it is imperative that urban community college administrators and leaders consider ways to graduate students from technical programs within three years to meet the demand for a skilled workforce.
Interventions for College Administrators to Address Factors Contributing to the Three-Year Graduation Rate of Students in Technical Programs

The findings of this study are pertinent to academic advisors, faculty members, and deans as they work to place and follow through with their respective technical program students. The areas addressed below are applicable to TCCD Northwest Campus. While these areas of concern speak to the needs specific to TCCD Northwest Campus, these intervention recommendations can be expanded to other TCCD campuses and has potential utility at other technical programs in Texas. As Texas’ higher education leaders continue to work toward meeting the goals and objectives of the Closing the Gaps initiatives administrators must further enhance ways to serve all students, especially nontraditional students.

First, mentoring programs should be developed to address student retention and graduation. Mentoring programs are not overly expensive to develop; and when they are implemented, the student, technical program, college, faculty, community, state, and the nation benefit. Mentoring programs have been shown to be successful among community college students (Boyd, 2007). Because faculty and alumni were not reported by respondents as part of the mechanisms in place to influence the three-year graduation rate, a mentoring program could enhance graduation rates for future technical program students.

Second, a retention plan should be developed to address the needs of students, specifically of nontraditional students, in technical programs. This recommendation aligns with Webb’s (1989) recommendations for ensuring the high quality technical programs. Technical students need more academic support because they have been out of high school for a number of years. It is important that nontraditional students are integrated into their urban community colleges.
Third, students should be required to declare their majors and prepare their official degree plans during their first semester of technical program enrollment. The degree plan serves as the official advising tool for students, counselors, faculty, and academic advisors. This plan should be the integral component of any technical student’s advisement process. Further, the college will be able to generate data through the active implementation of degree plans and to make better decisions related to course offerings and strategic plans for their institutions.

Fourth, programs enabling faculty advisement of students enrolled in technical programs should be developed. Faculty involvement with students should be promoted by the administration of the college to improve the three-year graduation rate of students. Research has shown that contact between faculty and students beyond the classroom may be salient to retention of students at an urban community college (Pascarella et al., 1985, 1986). Faculty members in technical programs tend to have full workloads, which involves teaching five classes per semester. These faculty members also often serve on local and state advisory boards designed to connect their college with both the local and state business community. Their active teaching and community service roles counteract their ability to focus attention on each individual student and to provide their students with the proper tools needed for successful completion technical programs. Tarrant County College Northwest administrators could consider allowing faculty to teach four classes and dedicate one course to faculty advisement during the semester. Based on the literature review, faculty advisement could perhaps increase graduation rates in technical programs.
Lastly, an alumni or former student association office should be funded. Based on the results of this study, an alumni affairs or former student association office could help with students develop networks between each other and within the community once they have completed their programs. It could become self-sustaining after a period of implementation. This way technical program department heads have valid reasons to seek information from alumni regularly and alumni would have a reason to keep in contact with the college and program. The alumni office could benefit the college and technical programs by keeping track of former students who graduated from technical programs. In addition, TCCD Northwest Campus may be well served in the long run by tracking students regardless of whether they leave or do graduate from their technical programs. For example, emails, letters, and postcard could be sent to student who did not return to the program to ask the reasons for their attrition. The development of alumni directories for the technical programs could enhance networking capabilities between the college and businesses, and between students and alumni. Should a mentoring program be developed, graduates of the technical programs could serve as mentors to current students and these interventions could be managed by the alumni affairs or former student association office. The continued connections and networking with former technical alumni could lead to scholarships being developed for future students enrolled in technical programs. In sum, long term relationships with graduates and former students could enhance the marketability of technical programs, particularly for the TCCD Northwest Campus.

Recommendations for Future Research

This research study provided data available for future research and produced areas of concern that require future investigation on a grander scale. Other research opportunities exist
for the expansion of three-year graduation rates for students enrolled in technical programs at urban community colleges. Those recommendations are provided in the following paragraphs.

First, qualitative investigations regarding technical students may be used to gain depth in understanding why nontraditional technical program students graduate at different rates from the various technical programs offered at urban community colleges. Community colleges pose a unique issue for those who want to use a single graduation rate to measure institutional effectiveness. Elliott (1994) mentioned that over half of the students on urban campuses are nontraditional students many of whom must manage diverse responsibilities affecting their motivation to withdraw before reaching their academic objectives. According to Dougherty (1992), community college students encounter “institutional obstacles” all along the way. Technical students have many responsibilities, such as those for maintaining a household. Older students often confront requirements from employers and family, plus community activities that tend to extend the time to graduation or minimize the chances of graduating. Dougherty points out students entering a community college are 10% to 18% more likely to withdraw than their counterparts at four-year schools. The community college draws students with an array of educational goals and from varied backgrounds. Many community college students start with an objective of earning a two-year degree, one fourth want to complete a four-year degree, and the rest would like to earn a certification. There are several factors related to age that enhance the chances of not finishing college. They include not earning a standard high school diploma, having a part-time job, being a single parent, depending on parents for financial support, and holding full-time employment while enrolled (Rosenbaum et al., 2007).
Second, graduation rates between technical programs held on different campuses on a state-wide or national scale should be compared for two reasons. Bean and Metzner (1986) recognized that social integration perhaps an indirect influence drop out decisions. Their model of persistence is designed for nontraditional students. Bean and Metzner’s model depends strongly on data throughout the academic year. However, the model seems to be conclusive in examining dropouts at two-year colleges. Therefore, the factors directly contributing to the three-year graduation rate for students between technical programs need to be compared. Also, Bailey et al. (2005) mentioned that larger community colleges have lower graduation rates than smaller community colleges. Colleges with a large number of females, minority students, and part-time students tend to have lower graduation rates than schools serving a larger number of traditional students. Understanding the nature of these differences between student populations may improve rates for all sizes of technical programs and for demographically unique technical programs.

Third, a study conducted on a state and national level could include the top three reasons why students have yet to attain a technical degree. The present study, while quantitative in nature, focused on only one campus within a large urban community college district. A targeted study could help administrators and technical program heads at local levels and policy makers and legislators at larger-scale levels strategize on ways to improve course offerings and improve retention and graduation rates and incentives for degree completion.

Fourth, females who were a part of this study should be interviewed regarding the factors they believed helped them complete their technical programs in three years. The knowledge gleaned from the females who graduated in three years could assist with
advisement, counseling, and mentoring future female students enrolled in technical programs. Mentoring has been noted to be a very important part of a student’s success. The women who graduated in three years or less could be asked to serve as mentors to other students in technical programs. Future students could potentially adapt the same strategies that the interviewed females may have utilized to help them be successful.

Fifth, future researchers might determine if it takes longer than three years for most students enrolled in urban community colleges to complete their technical program degrees. As part of such investigation, whether students enrolled in technical programs may be enrolled in other programs simultaneously may be found to be a factor in students’ need for longer than three years to graduate. Additionally, students enrolled in technical programs may work full-time and be enrolled in only three to seven credit hours per semester. According to Smith and Vellani (1999), “simple arithmetic is forcing urban community colleges to face problems that are unique in history, for which there appear to be no acceptable solutions” (p. 9). Urban community colleges honor their mission of providing service in the sciences, occupational education, liberal arts, continuing education, and remedial education. Smith and Vellani observe that urban community colleges are being required to justify what they do. Policymakers have questioned these colleges about graduation rates, transfer rates, and the time required for students completing a degree. Understanding the circumstances of enrolled students and the reasons for them to need more than three years to graduate from a technical program may enable college administrators to better defend their graduation rates.

Sixth, assuming there is parity between program requirements, faculty may have something to do with how aggressive the departments are in mentoring their students and
encouraging them to declare and articulate a degree plan. The faculty-student relationship could influence the different graduation rates between technical programs. Investigating faculty perceptions and commitment to students could facilitate understanding about the length of time needed to graduate for the majority of technical students. A study designed to learn faculty perceptions about their workloads and what they need to be able to better focus on their attention on each individual student and to provide their students with the proper tools needed for successful completion technical programs is needed.

Seventh, a study about students’ rationales for their technical program choices is warranted. Because students often take the path of least resistance, they may choose to enroll in programs they believe they can complete within a certain time frame. Students may not be influenced by post graduation income, work hours, or other factors administrators may consider important. All students must complete the core curriculum but may be resistant to those programs requiring math, for example. Many students entering a community college are considered nontraditional and first generation; therefore, they may have been out of school for a while and may require math remediation. Some students may drop courses and even change their major due to a math requirement.

Finally, data from the survey should be mined to determine if more factors/variables prohibit students from graduating from technical programs in three years. In the present study, the researcher focused on a number of variables but there could be several other variables causing students not to graduate from technical programs in three years. Many students were found to depart without a degree, course credits, or credentials (Rosenbaum et al., 2007). The community college draws students with an array of educational goals and from varied
backgrounds. Students can attend a community college to take classes for the purpose of obtaining a two-year transferable degree or a terminal certificate, enhancing general job skills, or for personal enrichment. There are several factors that have been related to chances of not finishing college. They include: (a) not earning a standard high school diploma; (b) having a part-time job; (c) being a single parent; (d) depending on parents for financial support; and (e) holding full-time employment while enrolled (Rosenbaum et al., 2007).

Higher education is facing increasing pressure to boost its accountability to state and federal government agencies. This accountability incorporates the objective of enhancing education for minority and low-income students and creating a more business-like environment for colleges and universities. While both are acceptable objectives, the U.S. Congress is interested in utilizing graduation rates as an avenue for measuring accountability (Rosenbaum et al., 2007). Community colleges pose a unique issue for those who want to use a single graduation rate to measure institutional effectiveness. Therefore, the recommendations made here could be essential to meeting the requirements set by THECB to address accountability and Closing the Gaps. Exploring ways to increase graduation rates of technical programs and urban community colleges will build their credibility.
APPENDIX A

PERMISSION TO USE TCCD DATA FOR RESEARCH PURPOSES
Date: March 10, 2008

To: Dissertation Committee Chair for Aubra Gant
    University of North Texas
    Denton, Texas

Re: Permission to Use TCCD Data for Research Purposes

Aubra Gant visited with me last week to discuss the use of data from Tarrant County College District to perform the research for her dissertation topic, The Impact of Declaring a Major and Filing a Formal Degree Plan on the Graduation Rate of Students in Technical Programs at Tarrant County College-Northwest Campus. The basic project from which the data is derived occurred in 2005 at the Northwest Campus, and Aubra was a key player in that project. The data from the project used in conjunction with graduation data since that time will be analyzed by her. The Office of Research is committed to assisting her with data retrieval. She specifically has approval to use the data for research purposes to complete her dissertation. She has completed the appropriate research request forms at TCCD and gained signatures as required.

Sincerely,

Linda K. Hines
PhD
Director of Institutional Research
Tarrant County College District
FORM A

Research Data Request Form
Submit to Office of Institutional Research
For questions or assistance contact linda.hines@tccd.edu (Ext 5306 or 5308)

Check the appropriate box:
☑ TCCD Employee needing data for TCCD program or departmental use
The following two categories must also complete:
Form B - Education Research Agreement
Form C - Request to Perform Research Using TCCD Student, Faculty, or Institutional Data or Information
☐ Student (graduate or other) needing data for class or degree purposes
☐ Other _________________________

Date of Initial Request: 03/03/08 Date Needed: 03/15/08

Name: Aubra J. Gantt Campus: NW Ext: 7778

Type of Information Requested: The information requested is whether technical students at a multi-campus urban community college are more likely to graduate in three years if they have declared a major and filed a degree plan early in their college experience.

Purpose: The purpose of this research is to increase retention, persistence and graduation rates in technical programs. Additionally, this data will assist in addressing the Closing the Gap initiative.

Signature of Requestor: [Signature]

For use of Research Office only:

Approved: Yes ☑ No By ________________________

Date Project Presented to Research Office: 3/3/08 Date Approved: 3/10/08

Completion Date: ________________________

Utilization of Information (other than above):

[Handwritten note: Aubra Gantt requested permission to complete this project with data analysis on it relates to her dissertation. She met with Ms. Hines 3/14/08 to discuss the particulars of the work to be done.]

Tarrant County College District Office of Institutional Research
Education Research Request
Submit to Office of Institutional Research
For questions or assistance contact linda.hines@tccd.edu (Ext 5306 or 5308)

Approval to conduct education research of students or staff data requires prior consent to the following conditions:

1. The proposed research will not violate the individual’s confidentiality of personal information on file with TCC. Information gathered on study subjects will not be released in personally identifiable form.

2. Students or staff will be given the option not to participate in survey research projects.

3. The proposed research will not interfere with TCCD assigned personnel job responsibilities.

4. The proposed research will be coordinated through the Office of Institutional Research.

5. Research reports prepared for publication will be previewed by the Director of Institutional Research prior to submission in order to verify accuracy of information about the Institution.

6. A copy of the final report will be submitted to the Office of Institutional Research.

7. A copy of this form must accompany Form C: Request to Perform Research Using TCCD Students, Faculty or Data or Information when submitted to president and other campus administrators.

[Signatures]

[Stamp: Tarrant County College District]
Office of Institutional Research
Request to Perform Research
Using TCCD Student, Faculty, or Institutional Data or Information
(includes survey information)

Research Topic Title: Multi-Campus Urban Community College: The impact of declaring a major and filing a formal degree plan on the graduation rate in technical programs.

Purpose of Research: This project is planned as part of the Student Success initiative with the belief that students will more likely achieve their educational goals and be successful if they have information that will assist them in their planning. Students often do not know what it takes to complete a degree or certificate. In our Colleague system, the degree audit, which replaced our former degree plan, and the declaration of major are two separate steps. Sometimes students are ready to graduate before they realize that they should have declared a major. This project was done to bring to, provide them with a current degree audit and instructions on how to access their own audits in the future, and update their records with declared majors.

Objectives: The objective of this project is to increase graduation rates in technical programs at Tarrant County College-Northwest Campus.

Procedures: Review the data attained in 2005 will be utilized. Produce a data file of the participants. Obtain the fall 2008 records. Compare the graduation rates of those who declared a major and filed a formal degree plan to those who did not.

Subjects: Northwest Campus students will be the subjects of this study.

Methods: The survey instrument was designed by Fred Chambers. Students were asked to indicate if they are seeking an A.A., A.A.S., or Certificate of Completion and, if they are in a technical field, what major they want to declare. Students may declare in both the A.A. and A.A.S. degrees and in as many fields as they choose. Degrees are included on the back of the survey so no Catalogs or other materials are needed. This survey information will be used to prepare a degree audit for each student in the primary area of study indicated. Degree audits were distributed in class as soon as possible after the survey is administered. Students were given the opportunity to ask questions about the degree audits and then signed off on the original survey indicating the major (or majors) they want to declare. Students were instructed on how to access a degree audit using Web Advisor so that they can generate other degree audits of interest to them in the future. Instructors returned the signed survey sheets to the division office for further follow-up with the Registrar's office to input the
FORM C  
Page 2 of 3

declared major indicated by each student. The data will be entered in an excel file and cross-tabbed in SPSS. The plan is to take the data from this project and graduation records and determine of the hypothesis is true or false.

Planned Use of Results: The results will address the following issues:
- An increase in the number of declared majors in each of the technical programs
- Ultimately with continued effort on this issue, an increase in the number of degrees and certificates awarded with gains in graduation and persistence rates and transfers to senior institutions
- Added persistence for first-time-in-college undergraduates
- Enhanced feeling of success for students
- Empowerment of students in developing their educational plans
- Upgrade in Perkins funding for Northwest Campus
- Share finding with Administrators on Northwest Campus

Benefits to TCCD: An increase in the number of declared majors in the technical programs.
Enhanced feeling of student success
Upgrade in Perkins funding for Northwest Campus
Increased graduation rates

- Attach Form A and Form B (each signed by Director of Institutional Research).
- If this project relates to a class, thesis, or dissertation, attach appropriate instructor, committee, and/or IRB approval before requesting signatures
- Obtain appropriate signatures below
- Forward all to Dr. Linda Hines, Director of Institutional Research.

Researcher may NOT begin research until he/she receives a copy of this completed form (including all signatures listed below).

Date 3/4/08

Date 3/4/05

Date 3/4/08

Date 3/5/08

Office of Institutional Research
linda.hines@tcccd.edu
Ext 5306 or 6306

3/4/2008

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Linda Eanett intends to use the data from the project for dissertation purposes.
June 10, 2008

Aubra Gantt
Department of Counseling and Higher Education
University of North Texas

Re: Human Subjects Application No. 08-178

Dear Ms. Gantt:

As permitted by federal law and regulations governing the use of human subjects in research projects (45 CFR 46), the UNT Institutional Review Board has reviewed your proposed project titled “Factors Contributing to the Third-Year Graduation Rate of Students in Technical Programs at a Multi Campus Urban Community College.” The risks inherent in this research are minimal, and the potential benefits to the subject outweigh those risks. The submitted protocol is hereby approved for the use of human subjects in this study. Federal Policy 45 CFR 46.109(e) stipulates that IRB approval is for one year only, June 10, 2008 to June 9, 2009.

It is your responsibility according to U.S. Department of Health and Human Services regulations to submit annual and terminal progress reports to the IRB for this project. Please mark your calendar accordingly. The IRB must also review this project prior to any modifications.

Please contact Shelia Bourns, Research Compliance Administrator, or Boyd Herndon, Director of Research Compliance, at extension 3940, if you wish to make changes or need additional information.

Sincerely,

Kenneth W. Sewell, Ph.D.
Chair
Institutional Review Board

KS:ab
CC: Dr. Patsy Fulton-Calkins
TO:        Dissertation Committee Chair for Aubra Gantt
           The University of North Texas
           Denton, Texas

RE:        Permission to Conduct Research with Students in Technical Programs

Aubra Gantt and I worked closely in Fall 2005 semester on a program to assist
students in obtaining their degree plans and simultaneously declare their majors. This
involved the construction of an instrument to collect the data, working with classes to
administer the survey, printing degree plans for students, and class follow up. These
technical program classes were all in my division. Therefore, I give my permission for
Ms. Gantt to conduct research with the student data we obtained from our work and any
additional related data that might be needed for her study. I wish her every success in
this project.

Gloria J. Mills
Gloria J. Mills, Ed.D.
Dean of Mathematics and Sciences
Northwest Campus
Tarrant County College
APPENDIX D

TEXAS HIGHER EDUCATION COORDINATING BOARD PERMISSION
TEXAS HIGHER EDUCATION
COORDINATING BOARD
Academic Affairs and Research
P.O. Box 13788 • Austin, Texas 78711 • 1200 East Anderson Lane 78752

December 12, 2008

Aubra J. Gantt
5501 Plata Lane
Benbrook, Texas 76126

Dear Ms. Gantt,

Thank you for your recent inquiry regarding the use of a survey produced by the Texas Higher Education Coordinating Board in your dissertation. The use of past Coordinating Board surveys is acceptable. All published Coordinating Board materials are considered public state documents and unless otherwise indicated do not have copyright restrictions.

Please accept our best wishes on your educational pursuits.

Best regards,

Stacey Silverman

Stacey Silverman
APPENDIX E

TCCD / NORTHWEST SURVEY
TCCD/Northwest Student Survey

2. About You

* 1. What is your age?
   - 18-22
   - 23-26
   - 27-35
   - 30+

* 2. What is your ethnicity (please select all that apply):
   - American Indian or Alaska Native
   - Asian/Pacific Islander
   - Black or African American
   - Hispanic or Latino
   - Native Hawaiian or Other Pacific Islander
   - White
   - Other

* 3. What is your marital status?
   - Single
   - Married
   - Domestic Partnership
   - Divorced
   - Separated
   - Widowed

* 4. What is your gender?
   - Female
   - Male

5. Which of the following statements best describes you (please select all that apply):
   - I am the first person in my family to attend college
   - I have one parent with a college degree
   - Both of my parents have college degrees
   - I have a sibling with a college degree
TCCD/Northwest Student Survey

* 6. How many dependent children do you have?
   - 0
   - 1
   - 2
   - 3
   - 4
   - 5+

   Are you the sole caretaker for your children (please type in your response below)?

* 7. How far do you commute on a daily basis to get to your job?
   - 0-5 Miles
   - 6-15 Miles
   - 16-30 Miles
   - 30+ Miles

8. What field are you currently working in:
   - Accounting
   - Administrative
   - Advertising
   - Aviation
   - Agriculture
   - Airlines
   - Architectural Services
   - Automotive
   - Real Estate
   - Science
   - Biotechnology
   - Building and Grounds Maintenance
   - Building Construction
   - Strategic Management Career
   - Services Computers
   - Services Consumer
   - Design Customer
   - Writing Education
   - Utilities Engineering
   - Economics
   - Hospitality
   - Government
   - Health Care
**TCCD/Northwest Student Survey**

- Business Office
- CNAs/Aides/MA
- Laboratory
- Radiology
- Therapy
- Insurance
- Software Development
- Legal Logistics
- Transportation Manufacturing Production
- Operations Marketing
- Health Military Nonprofit Operations
- Editing
- Program Management
- Purchasing Quality Assurance
- Wholesale Sales
- Account Management Sales

<table>
<thead>
<tr>
<th>Technical Field</th>
<th>Non-Technical Field</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. How many years have you been employed in your current field?

- 0-1 Year
- 2-4 Years
- 5-7 Years
- 8-10 Years
- 10+ Years

10. What is your gross annual income?

- Less than $5,000
- $5001 - $10,000
- $10,001 - $20,000
- $20,001 - $30,000
- $30,001 - $40,000
- $40,001 - $50,000
- $50,001 - $60,000
- $60,001 - $70,000
- $70,001+
TCCD/Northwest Student Survey

3. Your Academic Experience at TCCD/Northwest

1. Did you prepare an official degree plan (a document designed to help you chart your academic progress) while attending TCCD?
   - Yes
   - No

2. If you answered YES to the previous question, when was the plan prepared?
   - First Semester
   - Second Semester
   - Third Semester
   - Fourth Semester
   - Fifth Semester
   - Sixth Semester

3. Did you declare a major?
   - Yes
   - No

4. Please tell us your major at TCCD/Northwest:
   - Associate in Applied Science
   - Associate of Arts
   - Certificate of Completion

5. Did you graduate from TCCD/Northwest?
   - Yes
   - No

6. If not, why? Please choose one of the following.
   - Poor grades
   - Military Deployment
   - Financial Reasons
   - Family Issues
   - Transportation
   - Other
TCCD/Northwest Student Survey

7. If you answered no to question #6, do you plan to return to Tarrant County College?
   ○ Yes
   ○ No

8. How many years did it take you to graduate from TCCD/Northwest?
   ○ NA - Did Not Graduate With Degree
   ○ 1
   ○ 2
   ○ 3
   ○ 4
   ○ 5
   ○ 6
   ○ 7+

9. While attending TCCD, were you involved in student organizations?
   ○ Yes
   ○ No

10. While attending TCCD, how many hours per week did you work on an off-campus job?
    ○ 0
    ○ 10-20
    ○ 20-30
    ○ 40-50
    ○ 50-60
    ○ 60+
TCCD/Northwest Student Survey

11. Of the following individuals at TCCD, select all who provided you with advisement/counseling during your time on campus (please check all that apply):
   - [ ] Academic Advisor
   - [ ] Faculty Member
   - [ ] Friend/Peer
   - [ ] Mentor
   - [ ] Staff Member
   - [ ] Student Organization
   - [ ] Other (please specify)

12. Of the following individuals outside of the campus, select all who provided you with advisement/counseling during your time as a student (please check all that apply):
   - [ ] Child
   - [ ] Clergy Member
   - [ ] Community Organization
   - [ ] Friend
   - [ ] Grandparent
   - [ ] Parent
   - [ ] Sibling
   - [ ] Spouse/Significant Other
   - [ ] Other (please specify)

13. Did you have any previous college experience prior to attending TCCD/Northwest?
   - [ ] YES
   - [ ] NO

If yes, please let us know where you attended:

[ ]
TCCD/Northwest Student Survey

14. Of the following characteristics related to successful graduation rates, please let us know how influential each was to you in your time at TCCD/Northwest.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Negative Influence</th>
<th>No Influence</th>
<th>Positive Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advising within the first 2 semesters</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Access to Faculty Mentors</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Access to Student Organizations</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Access to Faculty Office Hours</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Career Counseling</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Academic Skill Development</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

15. Of the following non-academic characteristics impacting graduation rates, please let us know how each one impacted your experience at TCCD/Northwest.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Negative Impact</th>
<th>No Impact</th>
<th>Positive Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childcare</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Employment</td>
<td>○</td>
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<td>○</td>
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<tr>
<td>Family</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Finances</td>
<td>○</td>
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<tr>
<td>Housing</td>
<td>○</td>
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</tr>
<tr>
<td>Military Deployment</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>Parent Care</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Personal Health</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Spouse/Partner</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Transportation</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

*16. Thank you for completing this survey. Do you want to be entered into the random drawing for the $50 Target Gift Card?*

○ YES (please enter your email below)

○ NO

Your Email: [Field]
4. Thank You

Thank you for your time in this process.
APPENDIX F

TCCD / NORTHWEST STUDENT SURVEY CONSENT TO PARTICIPATE
TCCD/Northwest Student Survey

1. Consent To Participate

University of North Texas Institutional Review Board
Informed Consent Form
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.

Title of Study: Factors Contributing to the Three-Year Graduation Rate of Students in Technical Programs at an Urban Community College.

Principal Investigator: Aubra J. Gantt, a graduate student in the University of North Texas (UNT) Department of Higher Education.

Purpose of the Study: You are being asked to participate in a research study which involves determining the factors contributing to the three-year graduation rate of technical students from an Urban Community College.

Study Procedures: You will be asked to answer questions pertaining to your experience while attending an Urban Community College (Tarrant County Community District) that will take only about 15 minutes of your time.

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: This study may benefit Tarrant County College District in addressing one of its key performance measures issued by the state of Texas Higher Education Coordinating Board. There is a tremendous effort to increase the graduation rate of technical students on TCCD/Northwest Campus. Your participation in this study will assist the college in its retention and graduation efforts.

Compensation for Participants: With your consent, you will be entered into a random drawing of all respondents for a chance to win one $50 Target Gift Card.

Procedures for Maintaining Confidentiality of Research Records: Only aggregate data will be presented, not individual responses. Consent is confirmed by students selecting yes on question number one and continuing with the survey.

"This research project has been reviewed and approved by the UNT Institutional Review Board (940) 565-3940. Contact the UNT IRB with any questions regarding your rights as a research subject."

1. Do you consent to participate in this study?

○ Yes

○ No
APPENDIX G

UNT IRB INFORMED CONSENT FORM

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Informed Consent Form

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 student and how it will be conducted.

Title of Study: Factors Contributing to the Three-Year Graduation Rate of Students in Technical Programs at an Urban Community College.

Principal Investigator: Aubra J. Gantt, a graduate student in the University of North Texas (UNT) Department of Higher Education.

Purpose of Study: You are being asked to participate in a research study which involves determining the factors contributing to the three-year graduation rate of technical students form an Urban Community College.

Study Procedures: You will be asked to answer questions pertaining to your experience while attending an Urban Community College. (Tarrant County Community District) that will take only about 15 minutes of your time. Please send the survey back in the enclosed self-addressed envelope via U.S. mail. The postage is free of charge.

Foreseeable Risk: There are no foreseeable risks in this study.

Benefits to the Subjects or Others: This study may benefit Tarrant County College District in addressing one of it key performance measures issued by the Texas Higher Education Coordinating Board. There is a tremendous effort to increase the graduation rate of technical student on TCCD/Northwest Campus. Your participation in this study may assist the college in its retention and graduation initiatives.

Compensation for Participants: With your consent, your name will be entered into a random drawing of all respondents for a chance to win one $50 Target Gift Card.

Questions about the Study: If you have any questions about this study, you may contact Aubra Gantt, Principal Investigator, at 817-515-7778 or aubra.gantt@tccd.edu or the faculty advisor, Dr. Barbara Bush, at 940-565-4288.

Procedures for Maintaining Confidentiality of Research Records: Only aggregate data will be presented, not individual responses. Consent is confirmed by completing the survey and sending it back to the sender via U.S. Mail in the enclosed self-addressed envelope.

“"This research project has been reviewed and approved by the UNT Institutional Review Board (940) 565-3940. Contact UNT IRB with any questions regarding your rights as a research subject.”

You may keep this document for your records. Please provide your mailing information for the compensation and return that portion with your completed survey.

APPROVED BY THE UNT IRB
FROM 6/10/08 TO 6/19/09


