Administrators’ Perceptions of
Career and Technical Education

by
Charles E. Haussman

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Graduate Supervisory Committee:

Dee Ann Spencer, Chair
Nicholas Appleton
Jeri McKinnon

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ABSTRACT

Career and technical education was founded on the common practice of apprenticeships integrated into the public schools at the beginning of the 20th century as manual arts, which continued to evolve into a culture and practice of its own as vocational education, and into what is now career and technical education, with an evolving focus on college and career readiness. This study sought to collect and compare the perceptions of superintendents, principals, assistant principals, and deans who were affiliated with ten Northeastern Arizona high schools, which were members of Northern Arizona Vocational Institute of Technology to seven similar sized high schools in rural Arizona, which were not affiliated with NAVIT. The NAVIT schools were members of the Joint Technological Educational District. The member schools were required by intergovernmental agreement to operate their career and technical education programs by specific guidelines and curriculum.

This study also compared the combined average academic achievement of the 2011 CTE concentrators of the NAVIT high schools, the non-NAVIT high schools, and all Arizona statewide CTE concentrators. Both NAVIT and non-NAVIT administrators were administered a survey, designed to measure perceptions of college/postsecondary preparation, career guidance and counseling, academic tracking, and curriculum.

Results revealed that both NAVIT and non-NAVIT administrators were supportive of career and technical education, but for different reasons. The
NAVIT administrators tended to view students in career and technical education programs as more mainstream, with college opportunities. The non-NAVIT administrators supported career and technical education as a system of programs that offered students opportunities for success, whether college bound or not. A significant number of NAVIT and non-NAVIT administrators opted for no opinion responses for several potentially controversial survey questions, which suggested discomfort with the topics. The academic achievement of the NAVIT, non-NAVIT, and statewide CTE concentrators as measured by the Arizona Instrument to Measure Standards pass rates were marginal between groupings. The statewide average was highest, followed by NAVIT, and non-NAVIT. Recommendations for further research include conducting personal interviews of administrators to better assess leaders’ perceptions of career and technical education and their influences on the academic and postsecondary career successes of students.
To my parents:
Courtney Haussman (Ed.D.) and Cheryl Haussman (MS. Ed),
Teachers, scholars, and academics
who provided constant support as
I started this journey in January of 2009.

To the disenfranchised and disengaged high school students
across the United States, who have fallen through the cracks
of an imperfect public education system.
These are the teenagers who were not blessed with the support and
encouragement of at least one caring adult during the school day.

To my great aunt, the late Alice Haussman (MA),
a history teacher, who dedicated her heart and soul
for approximately 42 years to the students of
Whitefish Bay High School in Milwaukee, Wisconsin.
Your spiritual presence guided me through this challenging process.

May all who read these words understand
that teachers are sacred pillars in the learning process.
May all educators strive to daily reach our hands
out to students from all races, creeds,
and socioeconomic positions of American society.
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CHAPTER 1

INTRODUCTION

Administrators in American public high schools engage in the daily balancing act of the allocation of scarce resources against unlimited demands. In what has evolved into a mission of be all things to all people, public high schools have evolved into institutions of social rehabilitation, special needs service providers, college preparatory programs, and training facilities for the future work force. G. Thomas Bellamy (2007) stated,

The challenges facing schools and their principals are clear: (a) intense pressure to meet standards of learning on annual tests when schools now serve more students with traditional challenges of poverty, language status, or disabilities; (b) widespread funding disparities that limit equity in learning as public policies focus on learning gaps among student groups; and (c) school-choice models that advance some family priorities while diverting attention from the academic achievement of all. (p. 57)

Statement of the Problem

The influences of a principal can have a profound effect on school climate, culture, and student achievement. Shiu-Yu-Cheng (2006) stated,

A compelling line taken in the school literature is that principals are pivotal in effecting curriculum and instructional renewal (e.g. English & Hill, 1990; Fink & Resnick 2001; Rooney 2003). A second and instructive line taken is that of principals asreshapers of school culture (e.g., Fullen 1998; Peterson and Deal 1998).” (p. 73)

To further support those findings, Waters and Marzano (2006) found that “principal leadership does have discernible effects on student achievement. In fact, we found the correlation between school level leadership and average student achievement in schools to be .25” (p. 6).
The influences of superintendents also have a positive effect on student achievement. Regarding the effects of superintendent/district leadership on student achievement, Waters and Marzano (2006) stated, “Our findings indicate that when district leaders effectively address specific responsibilities, they can have a profound, positive impact on student achievement in their districts” (p. 8). The authors also supported this through the results of a meta-analysis stating, “The computed correlation between district leadership and student achievement was .24 (95% confidence interval: .19 to .30). Both principals and superintendents have standards that clarify what they should be able to accomplish” (p. 10).

In an effort of meet as many needs as possible, while under increasing pressures, principals tend to do what they know best drawing from their personal backgrounds. Few high school principals or superintendents have backgrounds in career and technical education. A disproportionate number of superintendents do not have backgrounds in secondary administration and/or teaching at the secondary level. Fewer still have direct experience in career and technical education.

The results of that lack of background and understanding in career and technical education can have a negative impact on student achievement in skill attainment, opportunities for success within specific CTE programs of study, and overall high school levels of academic achievement.
Purpose of the Study

The purpose of this study was to compare the 2011 Arizona Department of Education AIMS test pass rates of CTE students in ten Northeastern Arizona high schools affiliated with Northern Arizona Vocational Institute of Technology (NAVIT) to the perceptions of their respective superintendents, principals, assistant principals, and deans. The study also compared the 2011 Arizona Department of Education AIMS test pass rates of CTE students in seven primarily rural and similarly sized non-NAVIT high schools to the perceptions of their respective superintendents, principals, assistant principals, and deans. Lastly, the study was compared to the 2011 Arizona Department of Education AIMS test pass rates of CTE students affiliated with NAVIT schools as well as non-NAVIT schools to the statewide CTE student AIMS test pass rates. Approvals were granted from both Arizona State University (Appendix A) and the Northern Arizona Vocational Institute of Technology (Appendix B) to conduct this research.

Research Questions

This study explored the following questions through a survey of superintendents, principals, assistant principals, and deans, and a subsequent analysis of AIMS reading, math, and writing pass rates of students who were classified as Career and Technical Education Program concentrators during the 2010-2011 school year.
1. What are administrators’ perceptions of Career and Technical Education?

2. Do administrators perceive Career and Technical Education as a form of tracking?

3. Do administrators view students who participate in Career and Technical Education programs differently in terms of potential for academic and career success?

4. Do NAVIT administrators’ perceptions of career and technical education students differ from non-NAVIT administrators’ perceptions?

5. Are those similarities or differences reflected in the respective academic achievement levels in the 2011 AIMS results in reading, math, and writing of NAVIT and non-NAVIT school districts?

*Subquestion A:* How do NAVIT concentrators’ AIMS reading, math, and writing pass rates compare to the 2011 Arizona statewide CTE concentrator pass rate in reading, math, and writing?

*Subquestion B:* How do non-NAVIT concentrators’ AIMS reading, math, and writing pass rates compare to the 2011 Arizona statewide CTE concentrator pass rates in reading, math, and writing?

*Subquestion C:* How did NAVIT concentrators’ 2011 AIMS reading, math, and writing pass rates compare to the non-NAVIT concentrators 2011 AIMS reading, math, and writing pass rates?
Definition of Terms

AIMS: Acronym for Arizona Instrument to Measure Standards.

Career and Technical Education (CTE): Contemporary term for vocational education. A system of programs that prepare students for college and career readiness.

CTE Concentrator: A student who achieves two to three Carnegie units of transcripted credits in a single CTE program. One Carnegie unit must be classified as a Level III course.

JTED: Acronym for Joint Technological Institute of Technology. Arizona legislation that allowed the formation of separate school districts to create opportunities for career and technical education.

NAVIT: Acronym for Northern Arizona Vocational Institute of Technology, which is a JTED in Northeastern Arizona.

Tracking: The process of placing students in classes based on their perceived academic abilities, race, socioeconomic status, or ability to succeed.

Vocational education: A term and curriculum derived from the passage of the Smith Hughes Act of 1917 to better meet the needs of education for the working class.

Assumptions

The first underlying assumption of this study is that participating administrators will complete their surveys in an objective, honest, and forthright manner. The second assumption is that the students who took the AIMS
assessments applied themselves to the best of their abilities. The third assumption is that the survey is a valid and reliable instrument.

**Limitations**

The study was limited to the ten Arizona high schools and associated school districts that were part of NAVIT, and the seven Arizona high schools that were part of the non-NAVIT sampling. All superintendents, high school principals, assistant principals, and deans were asked to participate in the survey.

**Delimitations**

The first delimitation is that this study is the size of the sample, which is ten school districts each with one high school in predominately rural northeastern Arizona. The second delimitation is that all ten high schools are members, through intergovernmental agreements, of the JTED NAVIT. The third delimitation is the seven non-NAVIT high schools are in predominately rural Arizona. The forth delimitation is that all of the students in the sample were considered CTE concentrators by the definition of the Arizona Department of Education. The fifth delimitation is the data was based on AIMS assessments from the 2010/2011 school year. The sixth delimitation is the surveys were conducted during the timeframe of February through March of 2011.

**Significance of the Study**

Career and technical education is often viewed as way to prepare students of lower socioeconomic standing for the work force. This belief was characterized when a U.S. Department of Education employee characterized CTE programs as
preparing students for careers as shoe repairers (D'Amico, 2003). The CTE stereotype prevails in the minds of many administrators with the thinking that, as Gray (2004) stated, “It prepares students only for work after high school, and its students are mostly male, too often minorities, academically backward, and destined for dead-end jobs” (p. 129). The attitudes of administrators may not be overt in those stated beliefs. Those attitudes are unrecognized paradigms as deeply engrained as are underlying sexist attitudes and racial attitudes.

The study attempted to determine if those attitudes directly impact CTE students’ successes on academic assessments through the AIMS tests. The study attempted to determine whether or not administrators maintained stereotypes of CTE students, and whether or not those stereotypes potentially promote self-fulfilling prophecies of low expectations and subsequent achievement.
CHAPTER 2

REVIEW OF THE LITERATURE

This chapter reviews the literature as it pertains to the impact of administrators’ perceptions of career and technical education and the subsequent impact on academic achievement of career and technical education students. The chapter is divided into six sections: The evolution of early vocational education to contemporary career and technical education, tracking, school reform, college and career readiness, the impact of leadership on student achievement, and the future of career and technical education. The section regarding the evolution of early vocational education to contemporary career and technical education establishes an essential aspect of this review of literature as it relates to the current perceptions of secondary education stakeholders. Those stakeholders include students, parents, business and industry leaders, teachers, superintendents, principals, assistant principals, and deans. Tracking, which is the topic of Section 2, provides a foundation of the common paradigm that Career and Technical Education is often perceived as part of the tracking process. The tracking psychology is frequently embedded into the paradigms of teachers, counselors, and administrators. School reform continues to be a significant topic, which is at the forefront of American societal and economic fixes. As the global marketplace opens to new competitors, the United States has not been able to regain its competitive dominance. Section 4 further explores career and technical education as leaders in business, industry, and government seek solutions to regain a
competitive edge to the global marketplace. High school graduates who are ready for college and careers are desired by business and industry. The impact of leadership relative to student achievement of career and technical education students is the focus of Section 5. The decisions and recommendations made by leaders in education have a powerful impact on students and their academic achievement. Section 6 assesses the future of Career and Technical Education. As leaders from both the private and public sectors grapple with the changes of our rapidly evolving global economies, the methods of educating our youth are under increased scrutiny. Career and technical education offers opportunities for those who are committed to change. Career and technical education also provides excuses to those to resist change.

The Evolution of Vocational Education to Career and Technical Education

Vocational education as a movement had formulated by 1910 with the influence of leaders in business, government, unions, and education (Cuban, 2001). From a system of apprenticeship arrangements in colonial times, the evolutionary process of career and technical education has been influenced by economic, educational, and societal issues (Gordon, 2003).

Grub and Lazerson (2005) reported that changes in high schools around 1900 began the shift from the emphasis in civic education to the creation of vocational tracks. Those changes were believed to be in response to the decline in apprenticeships as a way of preparing young people for work. Formal schooling was viewed as a way of correcting the outdated apprenticeship system. According
to Webb (2006), the first federal support for vocational education occurred with the Smith-Hughes Act of 1917. Lynch (2000a) added to that historical perspective in that federal legislation and funding had supported a long history of vocational education in the United States. The traditional vocational offerings in schools were historically geared towards immediate entry into the job market within specific offerings (Gordon, 2003). Those traditional vocational offerings were in areas such as welding, agriculture, and home economics.

House (1921) described two schools of thought on vocational education. The first was intended to fit the child to the job and accept the present economic system with little criticism. The second was based on John Dewey’s influence, which proposed that all students study the vocations, hence introducing students into the life of work.

Carnevale (2008) reported that in the early 1970s United States’ mass production competitive edge over the rest of the world shifted. People began to demand more than mass-produced standardized goods. The influence of accelerating technologies combined to make knowledge and the availability of high qualities and advanced goods and services more accessible. As the demands of the global marketplace force the United States to become more competitive, vocational education began a transition. According to *Too Narrow, Too Soon?* (CEA Institute, 2010), “Vocational education has been so disparaged that its few advocates have resorted to giving it a new name: “career and technical education” (p. 1). The Carl Perkins Act of 2006 changed the term of *vocational education* to
career and technical education, which is routinely referred to as CTE. Consequently, what was known as vocational education in the United States is now more commonly known as career and technical education.

One of the primary purposes of career and technical education is to prepare students for high skill, high wage, or high-demand occupations in current or emerging professions (Perkins IV, 2006). During the past 15 years federal legislation has sought to integrate CTE and academic subjects in order to provide pathways to postsecondary education in addition to employment (Plank, DeLuca, & Estacion, 2008). Kelly and Price (2009) concluded that the 1990 implementation of the Carl D. Perkins Vocational and Technical Education Act was designed to integrate academic standards into vocational programs. The purpose of this was to help graduates from vocational education programs be more competitive in the workforce.

Vocational education has transitioned out of the days when students perceived as unmotivated and/or academically incapable were dumped into high school welding labs, auto shops, and home economics rooms. Mulcahy (2007) discovered that while the number of 17-year-olds who aspired to attend four-year colleges doubled from 1981 to 2003 to 69% the Council of Economic Advisors projected faster growing demand for graduates with two-year technical college degrees, or specific training as opposed to four-year college degrees. Mulcahy explained that this was done to emphasize the change in the focus on academic and career development, which was away from jobs in the fading industrial and
manufacturing sectors. To further emphasize the underlying philosophy of the evolution, Lewis and Cheng (2006) described vocational education’s long history of the application of differentiated curricula in high schools in the United States. Lewis and Cheng (2006) referred to the “new vocationalism” within the last two decades, which has deliberately drawn closer to the academic mainstream. The authors further pointed out that the new vocationalism (Grubb, 1995, 1996; Lewis, 1991, 1997, 1998, cited by Lewis & Cheng, 2006) reflected the ideals of John Dewy in 1916. The philosophy of the new vocationalism provides structure for students and connects them with the actual workplace as well as technical colleges and community colleges. Martinez (2007) discussed John Dewey’s influence on the contemporary practices of career and technical education. Dewey promoted the philosophy of Democratic Humanism, which stressed that vocational education was needed for all students. He believed that the objective was to teach students through the vocations rather than specifically teach only the vocation or trade. Dewey believed in the integration of academics and vocational curricula, and emphasized problem-solving, global perspectives, and understandings of the role of work in our lives.

Kelly and Price (2009) identified five key elements of vocational education, which may improve students’ social psychological adjustment in school. Those elements are choice, a career focus, experiential learning, multidimensional performance data, and teacher-student mentoring relationships.
The authors suggested that these elements offered a clean slate for students who were previously disengaged.

Lynch (2000b) proposed that career exploration and planning begin at earlier levels. In addition, he proposed stronger integration of academic and career and technical education, more emphasis on the workplace readiness skills, and a new focus on planning and preparation for transitions into postsecondary education. This thinking was reflected in the Carl Perkins reauthorization of 2006. In the executive summary of the *2004 National Assessment of Vocational Education*, Silverberg, Warner, Fong, and Goodwin (2004) referred to policymakers’ examination of vocational education as a field in transition relative to changes in federal, state, and local education objectives. The CTE programs of today are more about computer-aided drafting, biosciences, and green technology.

The goal of career and technical education is now to prepare students for careers after graduation from high school or college (Gentry, Peters, & Mann, 2007). Martinez (2007) discussed what he saw as the one clear trend in career and technical education, which was that it was becoming more expansive and inclusive. Contemporary CTE programs have reduced the boundaries between college preparation and career preparation (Vail, 2007).

In their research, Grub and Lazerson (2005) commented on the “vocationalized” second tier regional universities and the trend towards occupational drift of academic majors such as business, health occupations, engineering, and information technology. Grub and Lazerson (2005) also included
that community colleges have become increasingly focused on occupational preparation.

More recently, Daggett’s (2011) keynote address, *CTE at a Crossroads*, spoke to the current state of affairs of career and technical education. He called for CTE to bring itself to academics and stop isolating the culture of career and technical education from the rest of education. Kelly and Price (2009) reported Levensque’s research that over 88% of comprehensive high schools in the United States offer at least one vocational program to more than 92% of the students who attend public schools.

**Tracking**

The classification and placement process in high schools in the United States has become known as tracking. Anasalone and Biafora (2010) referred to Ansolone and Oaks’ definition of school tracking “(i.e. the separation of students into hierarchical learning groups based on perceived or measured ability) continues to be cited as one educational practice within our schools that may serve to sustain social inequality” (p. 588). Oakes (1985) described tracking as the process where students are categorized so that they can be assigned in groups to different kinds of classes. She found that teachers’ estimates of what students were capable of learning often determined which classes and subjects were capable of learning. Hence, some students perceived as bright and upwardly mobile tend to be placed in college-bound classes. Fletcher and Zirkle (2009) cited Akos’ discovery, based on tracking literature, that CTE and general tracks
impacted student achievement negatively. The question as to whether or not
career and technical education is tantamount to tracking continues to be a source of
discussion and debate.

Gray, as cited by Martinez (2007), found that the Smith-Hughes Act of 1917 was designed around a separatists theme based on classical curriculum and called for a curriculum that would better meet the needs of working class students who were not intended for the professions. Kinchloe’s study, as cited by Martinez (2007), discussed the debate between Charles Posser and John Dewey on the philosophical basis of vocational education. Posser believed that academically inclined students were best suited for a classic academic curriculum; whereas, the students who did not suite that curriculum were suited for vocational curricula. The separation resulted in a form of tracking. Dewey, on the other hand, promoted vocational education for all.

Merton (1948) conceived of the theory of the “self-fulfilling prophesy.” He described the concept as beginning with a false definition of a situation that catalized a new behavior, which made the false concept become true. A popular debate in education, the theory of the self-fulfilling prophesy, states that students learn and achieve what they are expected to learn and achieve. Merton discussed the self-fulfilling prophesy in the context of education of ethnic groups and more specifically Blacks and Whites. He referred to the appeal of education as a cure-all for the social problems rooted deeply in the morality of America. Yet, the way students have been historically categorized and placed in specific classes and
programs based on gender, race, and socioeconomic status reveals that tracking has not been a cure-all for America’s educational woes.

Oakes (1985) discussed the implications of the Social Darwinist Theory, which provided a scientific basis for categorizing some groups of people as being of lesser social and moral development than others. The theory postulated that ethnic minorities and the poor were “less fit” and at a lower stage than Anglo Protestants. As an example of the Social Darwinist Theory, Oaks quoted a member of the 1889 Boston school committee:

Many of these children come from homes of vice and crime. In their blood are generations of inequity. . . . They hate restraint or obedience to law. They know nothing of the feelings which are inherited by those who were born on our shores. (p. 27)

Regarding these attitudes Oakes (1985) stated,

Social Darwinism had provided the “scientific” justification for the schools to treat the children of various groups differently. The Americanization movement provided much of the content of the schooling to be offered the children of the poor and immigrant. It was left to American industry to provide the form this new kind of schooling would take. (p. 27)

Hudson and Hurst’s study (as cited by Fletcher & Zirkle, 2009) identified high school curriculum tracks as college preparatory; career and technical education, dual and general. Silverberg et al. (as cited by Fletcher & Zirkle, 2009) defined the college preparatory track as the path in which students earned the needed credits to gain entrance to private and public four-year universities. The career and technical education track was identified as a program in which students completed at least three credits in a career and technical education career
pathway. In the dual track, students earned at least three credits in career and technical education and took the required courses to meet the entrance requirements of four-year colleges and universities. In the general track, students took the minimum amount of required courses and credits to graduate.

Gender has had a powerful impact relative to the way students have been sorted and classified in schools. Domenico and Jones (2006) cited research conducted by Wonacott, which found career and technical education to be traditionally gender biased towards males. They found that gender bias continued to be evident in areas such as programs enrollment and class quality, as well as wages earned by graduates.

Based on his research conducted on school boys in an English working class city, Willis (1977) supported the belief that it was a common educational fallacy that opportunities could be made as a result of education and that upward mobility was a result of qualifications that made the openings. He stated,

Insofar as this is an accurate assessment of the role and importance of qualifications, it supports the view that it is unwise for working class kids to place their trust in diplomas and certificates. These things do not push people up—as in the official account—but to maintain there those who are already at the top. (p. 128)

His research focused on the ways that public schools kept students in working class modalities.

Bowles and Gintis (1976) argued that the changes in educational reform throughout U.S. history have been partially in response to the threat of social unrest as new groups entered the labor market. Further, they referenced what John
Dewy called “social continuity of life” by assimilating the new generations into the societal order. They stated their convictions that schools served to legitimize and perpetuate social inequality rather then correct it. This has been viewed as that classification system of tracking.

The idea that students frequently self-select career and technical education tracks has also been researched. Ames Rosenholtz’s study (as cited in Kelly & Price, 2009) identified the argument by educational psychologists and sociologists that postulated that students with low levels of perceived competence are attracted to career and technical education in order to avoid the traditionally competitive and socially comparative environment of the college preparatory classrooms.

Smith (2006) reported that 100% of the principals in his study reported no formal policy on tracking. Whether an overt practice, a subtle system of categorization, or an unconscious thought process, tracking has a profound impact on students. LeTendre’s research (as cited by Smith, 2006) reported that in all industrialized nations students were sorted or tracked in public schools. Oakes (1985) stated,

"Tracking is one of those taken for granted practices. It is so much a part of how instruction is organized in secondary schools-and has been for as long as most of us can remember-that we seldom question it. We assume that it is best for students. But we don’t very often look behind this assumption to the evidence and beliefs on which it rests. (p. 6)"

Bowles and Gintis, (1976) discovered that in 1779 Thomas Jefferson proposed a two-track educational system that would prepare students for adulthood in one of two classes: the laboring and the learned. He also proposed
scholarships for students of the laboring class with genius and virtue to obtain liberal educations. He referred to this process as “raking a few geniuses from the rubbish.” The social implications of education and hidden curriculum as it relates to tracking in the United States are profound as was discussed by Bowles and Gintis.

Schools legitimate inequality through the ostensibly meritocratic manner by which they reward and promote students, and allocate them to distinct positions in the occupational hierarchy. They create and reinforce patterns of social class, and racial and sexual identification among students that allow them to relate “properly” to their eventual standing in the hierarchy of authority and status in the production process. Schools foster types of personal development compatible with the relationships of dominance and subordinance in the economic sphere; and finally, schools create surpluses of skilled labor sufficiently extensive to render an effective and prime weapon of the employer in disciplining labor—the power to hire and fire (Bowls & Gintis, 1976, p. 11).

Rubin’s study (as cited in Anasalone & Biafora, 2010) found that tracking did not improve academic achievement for all, but for the brightest students. The study also discovered that tracking allocated a disproportionately larger share of resources to students with the greatest social and economic advantages. Wheelock’s study (also cited in Anasalone & Biafora 2010) discovered the same. Similar findings were reported by Oakes and Guiton (1995) who reported research on the complexities of tracking. They concluded that high school
tracking decisions were influenced by three factors: (a) differentiated, hierarchical curriculum structures; (b) school cultures alternatively committed to the theory of common schooling and accommodating differences, and (c) political action within the system working to gain an advantage, which is often based on culture and socioeconomic status. Similarly, Yonezawa, Wells, and Serna (2002) conducted research on detracking and organized their findings within three themes: institutional barriers, tracked aspirations, and choosing respect. Their findings are summarized in that tracking is a complex interrelationship between school hierarchies, cultural affectations, socioeconomic influences, and community influences. As researchers, they stated that they were reluctant to relinquish the term tracking for the reason that ability grouping has become defacto tracking in that the practice supports racial, ethnic, and social class segregation in schools.

Whether or not career and technical education is a form of tracking or ability grouping is a complex topic worthy of continued research and analysis. Fletcher and Zirkle (2009) found multiple variables in predicting high school curriculum tracks. The significant variables they discovered were geographic, college and career aspirations, parental expectations, and academic measures such as G.P.A., high school grades, and standardized achievement test scores. Plank, DeLuca, and Estacion (2008) highlighted decades old research on tracking that identified vocational education as a delivery system for poor and minority students with low expectations.
The contemporary focus of college readiness for all high school graduates has affected the process of tracking. Because career and technical education has diminished the lines between college prep and career prep, the old practice of high school tracking is being dismantled (Vall, 2007). Dare (2006) found career and technical education has evolved into a program that has increased emphasis on strong academic preparation and postsecondary integration and course articulation. In a similar vein, the research by Novel (as reported by Fletcher & Zirkle, 2009) discovered that the dual track, that which prepares students for college and career, showed the greatest promise for students relative to long-term gains. Finally, regarding the effectiveness of career and technical education, Kelly and Price’s (2009) conclusions of their research was

We do not find a substantial improvement in adjustment to school for vocational students compared to similar students in traditional academic programs. One explanation for these findings is that the instructional environment in high school vocational courses is not as different from traditional coursework as some studies suggest. (p. 15)

School Reform

Each year an estimated one million students drop out of high school. A large percentage of the one million dropped out because they viewed their academic experiences as not relevant (Symonds, Schwartz, & Ferguson, 2011). Data compiled and published by High School Dropout and Completion Rates in the United States: 2007 (2009) found that about 30% of United States youths fail to receive a high school diploma on time. Put in a different perspective, Loftstrom’s research (as cited by Stern, Dayton, & Raby, 2010) found that only
three of four high school freshmen graduate four years later. Those who do succeed in school and beyond do so from advantaged middle class and above socioeconomic foundations.

It appears that nearly every adult in the United States is an expert on school reform. The questions people may ask are “Why a need for school reform?” and “If so, what are the desired outcomes of school reform?” Public schools are more often than not bureaucratic systems that seek to protect and perpetuate themselves. As institutions, public high schools are often defensive regarding their efforts to reform as well as the value of reform. Teachers, and ultimately administrators, who seek sustained careers in public education have high risks of becoming indoctrinated by the system. As a result, they may not be cognizant that they are part of the problem of education. Those who challenge the institutionalization and subsequent bureaucratic paradigm of public schools are either removed involuntarily, depart voluntarily, cope silently, or earn the label of troublemaker. Bennett, Finn, and Cribb’s study (as cited by Waters & Marzano, 2006), identified the public system of education as one of the most stubbornly intransigent forces on earth. They described the system of public education as full of people who were dedicated to protecting the status quo. They also described administrators who talk of reform, but whose actions counter efforts to change. Oakes (1985) summarized the prevalent mind set in public schools that is driven by what is done is out of habit that evolved from traditions in the school’s culture. She discussed the deep-seated beliefs of what we think is appropriate in schools
that we rarely question or reflect critically about what we do or the consequences. Twenty-six years later McNulty (2011) stated, “Most educators and the public at large want better schools, but they do not want them to be different. This is a major obstacle in seeking to transform our schools to accommodate what is already the second decade of this century” (p. 10). Change is slow or non-existent in our system of public education. In reference to the vision of change, Grub and Lazerson (2005) summarized what they referred to as the Education Gospel in the following:

The Knowledge Revolution (or Information Society or the Communications Revolution) is changing the nature of work, shifting away from occupations rooted in industrial production to occupations associated with knowledge and information. The transformation has both increased the skills required for new occupations and updated the three Rs, enhancing the importance of “higher-order” skills, including communications skills, problem solving, and reasoning. (p. 298)

The most recent school reform movement was prompted by the 1983 publication, A Nation at Risk (National Commision on Excellence in Education, 1983). Research conducted by Lynch (2000a) concluded that there was not a single statistic, survey, or anecdote that effectively framed the negative public sentiment towards the poor results from American high schools. He identified A Nation at Risk as having the greatest probability as the seminal event that framed the call for reform. In that report, references were made regarding the rising tide of mediocrity of American education. It called for dramatic reforms in education primarily directed at high schools.
Grub and Lazerson (2005) referred to a ritual of critique and reaffirmation that started with the condemnation of the state of education in the United States. The ritual of critique continues to have a broad range of acceptance. Mulcahy (2007) cited the National Commission on Excellence in Education report, which described high school curricula as “homogenized, diluted, and diffused to the point that they no longer have a central purpose” (p. 37). Mulcahy (2007) postulated that A Nation at Risk served as a catalyst for several states to raise high school graduation requirements, often at the cost of elective courses including career and technical education. In the report Tough Choices Tough Times (National Center on Education and The Economy, 2007), the alarming facts were highlighted. Over the last 30 years the proportion of other countries in the world have sent increasingly higher percentages of high school graduates, or their equivalent, into the workforce. Simultaneously, the proportion of the United States’ college students has dropped from 30% down to 14%. Part of that precipitous drop in per capita enrollments may be connected to the lack of high school preparation. (National Center On Education and The Economy, 2007)

Orozco and Cauthen’s study (as cited by Wheary & Orozco, 2010) found that nearly 60% of young community college students in either certificate or associates degree programs were required to take developmental coursework to make up for inadequate college preparation before they could enroll in college level courses. Additionally, American students have failed to make appreciable gains in math, science, and literacy compared to other advanced industrial nations.
(National Center On Education and The Economy, 2007). The report goes on to explain the dynamics of global competition. When educated and productive workers in other countries are able to compete with the United States for lower wages, the losses to our economy become alarming. American workers are in direct competition with workers throughout the world. The most recent school reform movement has rehashed some of the old arguments, and in effect, attempted to reinvent the wheel.

The system of public education in the United States has not succeeded in stimulating young people into wanting education and careers in math, science, and engineering (Friedman, 2005). The high school reform philosophy that high school students needed strong liberal arts educations in order to become more thoughtful global citizens has again been proposed (Mirel, 2006). The majority of school reform initiatives are focused on dabbling with the existing school, social, and curricular structures. Those with the courage to address true reform will be the ones who are capable of looking outside of the archaic U.S. system of public education.

According to Frant (2008) the United States’ system of education ignores high school graduates who do not attend college. Our educational system has not generated the necessary reforms to help high school dropouts and non-college bound students acquire the skills to be productive members of society. Carnevale, Strohl, and Smith (2009) cited the fact that since high schools seldom have terminal CTE alternatives, postsecondary education and training will become ever
more essential. Conversely, Clark, Farmer, and Welch (2010) stated, “CTE is also a major component of education reform and improving student achievement” (p. 49). The authors highlighted that career and technical education, within the realm of school reform, has adversaries as well as proponents.

Kelly and Price (2009) advocated for career and technical education as offering an educational clean slate for disengaged and low achieving high school students. Their metaphorical clean slate comprised of five elements, which addressed the social psychological adjustment issues with disengaged students. The components were the opportunity to make choices, career education possibilities, experiential learning, multidimensional learning criteria, and teacher-student mentoring relationships. Basing their proposition on past research and the metaphorical clean slate offered, the authors submitted that career and technical education as an opportunity to affect students’ trajectories in high school.

Plank et al. (2008) acknowledged that CTE is not without its critics. This has been driven by federal budget debates that involve a focus on the core academic areas and the subsequent testing. They cite the old paradigm, which regards CTE as a dumping ground for unmotivated youth who face low expectations and outdated training. Yet Horn (2002) listed vocational education as one of the most successful reform initiatives in the 20th century. Research conducted by Lynch (2000a) concluded that at about 1990 into the end of the 20th century, career and technical education began a gradual shift in philosophy and practice. Those changes were towards rigorous industry standards, high academic...
standards related to general education requirements, an emphasis on technology, and general employment competencies or soft skills.

*Career and Technical Education's Role in Career Guidance* (Association for Career and Technical Education, 2008) reported that CTE has grown into a model of educational reform. The new model involves career clusters, career pathways, and programs of study to help students navigate the process of career selection. The publication *Edutopia Vision*, funded and published by The George Lucas Educational Foundation, proposed that what works in public education is condensed to six core principles: comprehensive assessment, integrated studies, project-based learning, social and emotional learning, teacher development, and technology integration (Pondiscio, 2010). There was no mention of career and technical education, but these course principles easily align with the focus of contemporary CTE. Others see the new model of CTE as a part of educational reform movement. The old vocational education had a narrow focus that helped prepare students for entry-level jobs such as nursing or welding. The new career and technical education integrates occupationally broad themes such as health-related occupations instead of nursing and industrial-production instead of welding.

Lynch (2000a) stated that

there are four forces underpinning the demand for reform in high school vocational education . . . (a) The new economy, (b) public expectations for students, (c) new research on student learning and motivation and effective teaching, and (d) a loud and vocal call for reform of the American high school” (The Groundings of High School Career and Technical Education ¶ 1).
The objective of the new career and technical education is to integrate academic content with occupational applications (Plank et al., 2008).

Kuo (2010) identified common comprehensive school reform models. All focus on the needs of an entire school. They were career academies, early college schools, charter schools, and high quality preschool programs. Not so ironically, the high quality preschool programs were reported to yield a higher number of high school graduates than other reform models.

School reform involves dropout prevention. A common view of school reform is that CTE programs can attract students who otherwise would drop out of high school. The popular discussion of relevancy enters the pro-CTE argument. It is generally believed the students more prone to dropping out of high school will be less likely to do so if they are engaged in their learning as they see a purpose for attending high school. Plank et al. (2008) noted a 2003 report of the Advisory Committee for National Assessment of Vocational Education that suggested CTE courses, combined with academic courses could help keep students attached to school and inspire them to complete their diplomas. Plank et al. (2008) speculated that the combination of CTE and core academic courses enhances behavioral, emotional, and cognitive engagement. The CTE driven clarity of application helps to increase the value of academic subjects, hence keeping students engaged in school. This speculation was focused on students who were on target or younger than grade.
Educational reform and career and technical education are on a convergent path, which was discussed by Daggett (2011) as he emphasized that there was no place in the world for the unskilled. He stressed the need to create a culture of change, the need to create a unified vision involving core learning, and the necessity for student engagement. McNulty (2011) proposed a vision of the 21st century learning model, which was centered on learning and instructional time as opposed to the current 20th century model which was based on teaching the prescribed number of days taught each school year. He emphasized (a) business as usual can no longer be the standard; (b) to blend best practices with next practices; (c) to focus on being different not better; (d) collaboration, not cooperation, with dedicated time for innovation; and (e) to expect the first version not to be perfect.

**College and Career Readiness**

The National Assessment of Vocational Education, as reported by Silverberg et al. (2004), recommended that the federal investment in Perkins III funding emphasize the goal of education and workforce development. The report recommended that the focus should be directed on education relative to occupational skills and workforce development, with the emphases on jobs and other post-school outcomes. Within the U.S. economy there is a growing evidence of a “Skills Gap,” which means that large percentages of young adults do not have the necessary skills and work ethics to obtain and hold jobs that offer entrance to a middle class standard of living (Symonds et al., 2011). Balfanz’s study (as
reported by Rouse and Kemple, 2009) traced the history of a fundamental question, which asked the purpose of a high school education. Despite shifts, the essential purpose of high school in modern times is to develop economically self-sufficient adults and develop educated citizens. The former question is at the root of the concept of workplace readiness and its relationship with career and technical education. The global economy is markedly different from what it was 25 years ago. The technological revolution has made an impact that is perhaps greater than the industrial revolution. As a result, employers are demanding increasingly more skilled workers. The impact of globalization is forcing less skilled workers in the United States to compete with other low-skilled workers throughout the world (Rouse & Kemple, 2009). Rosenbaum’s research, (as cited by Kelly & Price, 2009) found that even the best vocational education curricula in the United States was weak compared to models in other countries. The school reform movement and the evolution of career and technical education has combined to propagate the desire to help high school graduates become more ready to enter the work force or postsecondary education. College and career readiness is described by (Ready for College and Ready for Work? 2006) that all high school students should be educated according to a common academic expectation that prepares them for both postsecondary education and the workforce. This means that all students should be ready and have the opportunity to take a rigorous core preparatory program in high school, one that is designed to promote readiness for both college and workforce training programs. (p. 2)

Similarly, workplace readiness has evolved into a popular catch phrase for politicians and reformers (Kuo, 2010). It continues to be the battle cry of
politicians and the captains of industry that the United States needs a more competitive and productive work force. As it turns out, the skills gap is an issue that goes deeper than political rhetoric. Symonds et al. (2011) provided findings from the 2006 Conference Board and three other organizations in a publication entitled *Are They Ready to Work?* The report, based on a survey of several hundred employers, concluded that too many young people are not prepared to be successful in the workplace. The authors of the report concluded that more than half of high school graduates were deficient in oral and written communication as well as critical thinking and professionalism. Also drawing on *The Partnership for 21st Century Skills*, Symonds et al. (2011) derived from this work that the focus on college readiness does not equip young people with many of the skills and abilities needed to be successful in the workplace.

From a legal perspective Frant (2008) found that states continue to ignore their two-part responsibility of providing academic and professional foundations for students. The author discussed the legal strategy of educational reformers, which is based on adequacy law suits. The adequacy suits serve to correct the failures of state level education plans to develop workforce preparation.

The college and career readiness discussion also brings forth issues of cultural stratification. Kuo (2010) cited a 15-year random assignment study of career academies that began in 1993. The findings were that mostly Hispanic and African American students experienced sustained employment and earning gains. They did not, however, demonstrate any difference in educational attainment.
compared to students who did not participate in career academies. Former
we are failing, miserably, our non-college bound young people, because we don’t
have a real school-to-work system in America” (p. 42).

In *What is "Career Ready"?* the Association for Career and Technical
Education (2010) highlighted the national dialogue regarding college and career
readiness. The discussion by influential policymakers often uses college readiness
and career readiness interchangeably. The report explained that career-ready core
academics and college-ready core academics were virtually the same as each
other. The College and Career Readiness movement evolved directly from the
Common Core Standards movement in the United States. Conrad and Watkins
(2011) reported that common core state standards were created to help prepare all
students for college and career readiness. They cited the origins of the common
core standards stemming from a coordinated initiative by the National Governors
Association Center for Best Practices, The Council of Chief State School
Officers, in collaboration with teachers, school administrators, and experts in the
field. They defined college and career ready skills in reading, writing, listening,
and language in the following:

1. They demonstrate independence.
2. They build strong content knowledge.
3. They respond to the varying demands of audience, task, purpose, and
discipline.
4. They comprehend as well as critique.
5. They value evidence.
6. They use technology and digital media strategically and capably.
7. They come to understand other perspectives and cultures (p. 9).

Dare (2006) identified career and technical education as one pathway from high school to postsecondary education that continues to gain attention. CTE continues to emphasize rigorous academics in conjunction with articulated dual enrollment in CTE courses and programs of study. Stern, Dayton, and Raby (2010) reported that the combination of career preparation with college preparation appears to be successful. Their review of transcripts indicated a remarkable transition to the practice of combining career and technical education with core academics.

**The Impact of Leadership on Student Achievement**

Martino’s research (as cited by Clark et al., 2010) emphasized that principals and superintendents have historically needed to substantially understand the issues that they encounter as educational leaders. The recommendations made by both teachers and administrators play a key role in the decisions that place students in track assignments (Ansalone & Biafora, 2010). Wheelock’s findings (as cited by Ansalone & Biafora, 2010) discovered that the self-fulfilling prophecy of teachers’ lower expectations of students in lower tracks triggered socially constructed frameworks for failure. Since superintendents and principals were nearly all teachers at one time these ingrained expectations easily and naturally continue. Pertaining to these ingrained expectations, Oakes (1985) stated:
I think one reason is that a lot of what we do in schools is done more or less out of habit stemming from traditions in the school culture. These traditions dictate, for the most part, the ways in which schooling is organized and conducted. Many school practices seem to be the natural way to conduct schooling, an integral part of the way schools are. As a result we don’t tend to think critically about much of what goes on. . . . We have deep seated beliefs and long held assumptions about the appropriateness of what we do in schools. These beliefs are so ingrained in our thinking and behavior—so much a part of the school culture—that we rarely submit them to careful scrutiny. . . . We rarely question the world on which practices are based—what humans are like, what society is like, or even what schools are for. We almost never reflect critically about the beliefs we hold about them or about the manifest and latent consequences that result from them. (p. 5)

Although the subject of this dissertation is not specifically about academic tracking, the topic does enter the discussion because career and technical education has been viewed as a track for lower achieving students. Hence, the leadership in a school district can potentially negatively impact student performance when students are placed in career and technical education tracks if they are perceived as less capable. Anasalone and Biafora (2010) discussed the body of research that suggests that assignments to lower tracks tend to influence the expectations teachers hold for the academic progress of their students. The lower expectation of the lower track students is believed to trigger a socially constructed framework for the students of lower expectation. Following that same line of logic school leaders may knowingly and unknowingly perpetuate these socially constructed frameworks. As school leaders these perceptions, right, wrong, or indifferent, have potentially deep and long-lasting effects on students’ lives.
In their research Bellamy, Fulner, and Muth (2007) discovered that the school leadership profession had not adapted to the changes in school expectations relative to the increasingly competitive global economy. Valentine and Prater (2011) discussed the traditional role of the principal, which has only recently changed. They identified the common role of the principal from the 1920 until the 1970s as that of administrative manager. It was not until the 1980s that principals began to evolve as instructional leaders. In their own research, the key findings were that day-to-day managerial skills, competence in instructional leadership, transformational leadership practices, and educational level all had positive correlations to student achievement. The authors cited Hallinger’s research that identified principals’ efforts to maintain the status quo. Rouse and Kemple (2009) referenced the significant number of principals who had not been successful in meeting and achieving these challenges. As Smith (2006) explained, the effective schools movement brought to the forefront the critical role of the principal as a shaper of school culture, school climate, and student achievement.

The increased focus on accountability driven by the Carl Perkins reauthorization, No Child Left Behind (NCLB) testing mandates, demands from industry and business in terms of workplace readiness, budget issues, and the need to address CTE leadership issues impacts local administrators throughout the nation. With the increase in mandates local administrators are faced with new implications (Clark et al., 2010). The findings and conclusions in a study by Smith (2006) were that over 80% of principals reported that student grouping
practices within their schools reflected their personal beliefs. Lewis and Cheng (2006) discovered that high school principals have adapted their thinking to the ideal of the new vocationalism. The authors believe that these new reform efforts are forced by federal Perkins funding of career and technical education. Lewis and Cheng, (2006) stated,

If a principal and other school professionals believe that a particular class of student is destined for four-year college while another class is destined for immediate entry into the labor force, then it is conceivable that these differential beliefs and expectations about students might shape school policy and factor into school curriculum processes such as tracking. (p. 93)

Cawelti and Protheroe (2007) researched school board and central office leadership and discovered that a central theme was superintendent leadership. The role of the superintendent to move procedure and practice to improvement at the school level was deemed critical. The authors reported that successful superintendents were relentless in communicating high expectations. Cudeiro (2005) discovered that effective superintendents positively impacted student learning by promoting, supporting, and developing principals as instructional leaders. In promoting principals, they focused on principals’ roles as instructional leaders, holding them accountable for improvement in student learning. In the support role superintendents reorganized central office roles to be more directly supportive of principals. In the development role superintendents fostered principals as learners and provided training in practices that were proven.

Research conducted by Supovitz, Sirinides, and May (2009) revealed positive correlations between principal leadership and student achievement. First,
they reviewed a synthesis of studies conducted by Hallinger and Heck. Those findings concluded that principals had an indirect effect on school effectiveness and student achievement. A second synthesis conducted by Waters, Marzano, and NeNulty revealed that there was a substantial relationship between leadership and student achievement. Finally, they cited a study of leadership literature conducted by Leithwood, Seashore, Louis, Anderson, and Wahlstrom, which concluded that school leadership was second only to teaching in terms of student learning. Their own research concluded that principal leadership influenced student learning by the influences in instructional practices in classrooms.

Most high school principals admit that without career and technical education programs they would not be able to offer career readiness opportunities to a significant number of students (Gray, 2004). Leaders, superintendents, and principals wield considerable influence on the employees that they hire. Counselors, especially those at the high school level, also have a powerful influence on students and their futures.

Career and Technical Education's Role in Career Guidance (Association for Career and Technical Education, 2008) reported that without structured guidance activities young people often do not gain knowledge of career opportunities or the skills required to obtain them. The authors found that guidance professionals often continue to be assigned large workloads of students and are frequently delegated other assignments that take them away from their initial assignments.
Because public schools in the United States are driven by levels of local control found nowhere else in the world, the survival of educational leaders is figuratively a political ice flow. Bellamy et al. (2007) reported the social and political context in which principals must survive in the quest for success. That political survival game influences the perceptions of superintendents and principals. How superintendents and principals lead, relative to the influences of their working environments, influences teacher effectiveness and student achievement. In his research, Mirel (2006) reported that school leaders placed students in vocational tracks and dummdied down courses in order to keep students in school and get them high school diplomas, thus keeping as many stakeholders as happy as possible. School districts must build the capacities of teachers and leaders in order to positively influence attempts to reform efforts to integrate high school experiences with career and college that will significantly impact student achievement (Kuo, 2010). Fullen (2007) stated,

CHANGE is only one of the forces competing for the principal’s attention, and usually not the most compelling one. And when it is compelling, as is the case most recently, it is difficult to focus and sustain the work needed for reform to be effective. (p. 155)

Fullen, (2007) also stated, “I know of no improving school that doesn’t have a principal who is good at leading improvement” (p.160). Research conducted by Yonezawa et al. (2002) highlighted the honesty of one high school assistant principal regarding students reaction of honors classes:

In most cases, particularly for African-American men, . . . it’s not that they can’t get in [to those classes], it’s that they choose not to go in . . . because, one, the curriculum across the United States is not focusing on
the culture or the diversity of the Afro-American male or the Hispanic male. . . . It’s not addressing where they’re coming from. (p. 58)

The perception of administrators is not necessarily causing students to forceably be placed in career and technical education programs of study. However, the existing cultures and hierarchies of schools likely influences students to choose programs of study that afford acceptance and comfort levels. Martinez (2007), citing the interpretation of the most recent renewal of the Carl Perkins Career and Technical Education Improvement Act of 2006, included a call for support for leadership and professional development technical assistance for school personnel at both the secondary and postsecondary levels. With that legislation also came a call for increased accountability, which also became a component of leadership.

Carnevale (2010) reported that the rising academic standards at the high school level has become a roadblock to success for students without the advantage of middle class and above status. This creates confusion for administrators who seek a balance between the programs students want to take and the programs that lead to four-year colleges and beyond. This impacts superintendents and district level administrators who possess varying influences on schools and student learning. Based on their research Fletcher and Zirkle (2009) recommended that school administrators establish more collaborative relationships with core academic and CTE teachers in order to construct interdisciplinary lessons and joint planning opportunities.
Bloomberg’s study (as cited by Fullen, 2007) found that curriculum, instruction, and professional development rarely arose in prominent issues during superintendent interviews. Their focuses were related to politics, governing boards, teacher unions, stress, exposure to the public, and conflicts. He summarized his findings of central office administrators, including superintendents, stating the need for focus on instruction, standards, assessment, continuous feedback, the use of data, and instructional leadership at the district and school levels. Fullen also stressed the necessity that teaching practices be deprivatized. That applies for students of all perceived levels of educational attainment whether career and technical education, honors, or any other track.

Recent research shows a relatively strong correlation between school level leadership and average student achievement (Waters & Marzano, 2006). Willis (1977), in his research involving working class boys in England, discussed American microsociology and the related views that leadership, leadership goals, efforts to maintain the norms of the group, and the influences by leadership to converge individual views evolved into permanent characteristics of the group. This view was prefaced as a part of Western Capitalism and is a component which reinforces the group views. Those views can be a paradigm of school culture and leadership. Murphy (2007) discussed studies of administrators at schools that had unusually high and low levels of student achievement. The researchers he studied discovered that principals in schools with high levels of student achievement had a definition of high academic and behavioral expectations and were less likely to
base their beliefs on issues of race and social status. He also emphasized that leadership for school improvement focused on students, their learning, and achievement through clear definition.

**The Future of Career and Technical Education**

This discussion cannot be exclusively about high school level career and technical education. To be relevant, it must also involve a discussion about postsecondary education and the interconnectedness of the two. As the U.S. economy continues to flounder, the subject of failed and inadequate education continues to be at the front of political campaigns and news media pages. Career and Technical Education's Role in Career Guidance (Association for Career and Technical Education, 2009) reported that the Bureau of Labor Statistics estimated that 15.6 million new jobs will be added to the labor force between 2006 and 2016. A significant number of those new jobs will require higher levels of communication, math, technology, and workplace skills. Today’s students frequently do not understand the increased requirement for those skill sets. Those skills may not all come from secondary education. Members of the 2005 “Rising Above the Gathering Storm” Committee (2010) reported that in the long term a great number of new jobs will be created as the direct result of advances in science and technology. These advances have made it possible for hundreds of millions of people to compete for these jobs. Carnevale et al. (2009) published calculations from the 1998 National Center for Education Statistics and the 2007 CPS Utilities statistics to show that access to college has become the primary
objective in K-12 education. They emphasized middle class employability and the
necessity of postsecondary education in order to attain the middle-class earnings.

The current directions of CTE have been influenced by the current Obama
Administration. Symonds et al. (2011) highlighted President Barack Obama’s
February 24, 2009 address before a joint session of Congress:

Tonight I ask every American to commit to at least at least one year or
more of higher education or career training. This can be community
college, a four year school, vocational training, or an apprenticeship. But
whatever the training may be every American will need to get more than a
high school diploma. (p. 6)

Even before the President’s inaugural speech (Martinez, 2007) quoted Camp and
Johnson in their call for the same:

CTE programs are becoming more academically rigorous and less directly
tied to single occupations. CTE is no longer just a training program for
workers; today CTE also prepares students for postsecondary work
including college as well as lifelong learning. CTE does not replace
academic subjects, but rather reinforces academic instruction by
incorporating basic academic instruction in a purposeful way into CTE
courses. CTE provides meaningful contexts in which students can apply
the concepts they learn in academic classrooms in settings that help them
to see the real-world relevance of what might otherwise be abstract
concepts. (pp. 55-56)

Research conducted by Carnevale et al. (2009) revealed that a half-million
plus students who are college qualified and come from working families do not
develop postsecondary education objectives during high school. The convergence
of thought regarding the future of CTE points to the transition from high school
and postsecondary education opportunities. More specifically postsecondary
credentials represent the transition to economic gains.
Wheary and Orozco (2010) advocated for occupational certificates and associates degrees, which have become a large and growing segment of postsecondary education. The same authors cited research by the U.S. Department of Education that found that in 2007 nearly 40% of the undergraduate credentials awarded in the United States were occupational certificates and associates degrees. Almost 1.5 million certificates and credentials were awarded in 2007, which was up more than 28% from 2002. Forecasts by Carnevale (2010) suggest that 47 million job openings will be filled by people with at least some college education by 2018. Of those 47 million, almost 30 million (64%) will be filled by those with at least some college. Twenty-one million (45%) will require an associates, bachelor’s, or graduate degrees. Carnevale stressed that postsecondary education or training is increasingly the only remaining path to the earnings and status of middle class America.

Moving to the next step of educational reform, Kuo (2010) suggested that we look at the recent past of education and learn lessons from those efforts. He cited the educational historians David Tyack and Larry Cuban, who noted that educational reform has not been evolutionary. At the time of the publication of this dissertation there are space age predictions of what Career and Technical Education will resemble in the future. It is doubtful that one single revolutionary change will sweep across the system of American education and provide never envisioned techniques to deliver CTE to students in well funded and neatly packaged modules. Just as humanity evolves slowly, by starts, stops, and
sometimes backwards, so too does the way we regard the process of education. Despite the grand and educated predictions of those public and private predictors, we do not know for certain how educational reform will unfold.

Carnevale (2008) discovered that, other than a few exceptions, high school CTE preparation does not help earnings advantages over the long term. There are, however, current practices not yet widely integrated, that offer positive results for CTE students. Recommendations made in the National Assessment of Vocational Education (Silverberg et al., 2004) highlighted their findings regarding the economic gains of postsecondary vocational education. They found that vocational education in community colleges gained substantial increases in earnings for the majority of those who attend. The earnings gains were directly proportional to the amount of time attended, with the two year certificate earners gaining the most. More current literature continues to support the advantages of postsecondary vocational education as well. In support of this premise, a recently released report by Carnevale, Rose, and Cheah (2011) used in-depth analysis to establish four rules regarding education’s relative earnings and the complex interaction between the two.

1. Rule No. 1: Degree level matters.

2. Rule No. 2: Occupational choice can trump degree level. People with less education in high-paying occupations can outearn people with more education in less remunerative occupations.
3. Rule No. 3: While occupation can sometimes trump education, degree level matters most within individual occupations.

4. Rule No. 4: Race/ethnicity and gender are wild cards that matter more than education or occupation in determining earnings. (p. 4)

One current career and technical education reform that has attracted attention has been the career academy concept. The career academy concept opens up the breadth and depth of CTE, facilitates strong academics, and provides a more defined pathway towards postsecondary options (Hyslop, 2009).

An example of one of those notable exceptions to high school CTE programs are JTEDs or Joint Technological Educational Districts in the state of Arizona. Joint Technological Education Districts: Analysis of an Urban and a Rural JTED (State of Arizona Office of the Auditor General, 2004) referenced Arizona Law (A.R.S.) §15-391 (1990) that school districts in the state of Arizona were allowed to form JTEDs (Joint Career and Technical Education Districts) to improve career and technical education offerings. JTEDs operate under two organizational models, which are referred to as central and satellite. Central programs provide a central campus to instructional facilities. Satellite programs utilize the existing member school facilities. Additional funding streams allow central and satellite programs to generate additional operations revenues.

Career and technical education as a reform has received little attention. Overshadowed by the perceived urgency of the lack of students pursuing careers in STEM (Science, Technology, Engineering, and Math), career and technical
education continues to be considered old school vocational education in mind sets of the general population.

Mirel (2006) discussed the historical debate over the nature and function of the traditional high school. He challenged the argument that more vocational education in high schools was needed. The author contended that the best vocational education was academic education. That line of thinking appears to highlight the current trend in CTE as a component of school reform. Grub and Lazerson (2005) maintained through their conceptual model of education that workers will potentially find their skills becoming more rapidly obsolete as a direct result of the high rate of technological change. They emphasized the need for lifelong learning to keep pace with that change.

Tyler and Lofstrom’s study (as cited by Rouse & Kemple, 2006) estimated that the national graduation rate lies between 75 and 78% and is much lower for Black and Hispanic students. The authors believe that the graduation rate has not changed much since the late 1960s. In their review of research on dropout prevention programs and efforts to increase graduation rates the most successful reform-oriented programs were curricular reforms that included career orientation.

Kuo (2010) predicted that career and technical education in the future will become part of a comprehensive school reform model that advocates smallness. This is nothing new in the school reform picture. The author pointed out that decades of research on school size had been discussed by Conant in 1959. At that
time, researchers suggested that ideal size of a school to be between 600 and 900 students. Kuo (2010) said that the term *small learning communities* was integrated into several models of small schools including academies, schools-within-schools, and magnet schools. He listed a recent study conducted by the federal government that concluded that research found positive moderate effects of smaller learning communities including lower dropout rates, higher attendance, and higher graduation rates.

According to Kuo (2010), career academies serving high school students have been suggested as the future of career and technical education. Organized into small learning communities of 150 to 200 students, they combine both academic and career and technical education. Career academies establish partnerships with local employers. Plank et al. (2008) proposed blending CTE with academic work to increase student engagement, which is a strong predictor of academic achievement. The blending of academic with career and technical education may potentially evolve in what McLester (2011) discussed with the Cradle-to-Career solution. Starting with the Harlem Children’s Zone as well as the Strive Model, the Cradle-to-Career solutions currently integrate birth to employment education. Initially designed for children living in poverty, these programs provide wrap-around services such as health, social, and monitory supports in conjunction with school. The focus on careers and healthy decision-making, while preparing for career directions, attempts to help students and families focus on goals towards career preparation. College and career readiness
then become achievable outcomes. Stern et al. (2010) described career academies as small learning communities, which combine college preparatory curriculum with career themes. They identified career academies as having evolved from a focus on dropout prevention and vocational preparation to what are now programs that focus on college and career preparation. Based on a summary of evidence Stern et al. (2010) found career academies to be effective in increased student academic performance.

Another promising practice that involves the integration of multiple facets of educational delivery, including career and technical education, is referred to as Linked Learning Pathways. Hoachlander and Yanofsky (2011) discussed the California-based Linked Learning Pathways to College and Career Success, which provides a comprehensive approach to integrate STEM (Science Technology Engineering and Math) in high schools. The authors pointed out that STEM-related Linked Learning connects core academic subjects to professional and technical subjects such as engineering, biomedical and health sciences, energy, information technology, manufacturing, media and digital design, transportation, and agriculture. The four components to Linked Learning are (a) an integrated curriculum, (b) project-based learning, (c) work-based learning, and (d) continuous improvement. There is nothing new to Linked Learning. What is new is the willingness to integrate thoughtful design into the ridgid paradigm of secondary education.
Dare (2006) discussed programs such as High Schools That Work (HSTW); Tech. Prep.; College and Career Transitions Initiative (CCTI); and Projects Lead the Way (PLTW) as wake up calls for community colleges. High Schools that Work and Tech Prep are programs that integrate rigorous academic lessons into CTE in order to prepare students for college. As the time of the publication of this dissertation Tech Prep is being transitioned to a similar concept referred to as Programs of Study. College and Career Transitions and Project Lead the Way integrate relevance and application into the traditional academic environment. Dare (2006) stressed that colleges and universities need to reach out to help meet needs of students while they are still in high school, while helping them to transition into college and the workforce. Community colleges are well positioned to partner with high schools.

Non-governmental influences in the form of philanthropies may have an influence on the future of career and technical education through American high school reform initiatives. According to Kuo (2010), some of those privately funded initiatives, such as human capital strategies, may divert the focus and monetary support away from small school initiatives, comprehensive school reform models. These philanthropies may also divert the focus away from structured pathways to college or careers.

According to Daggett (2011), the future of career and technical education is at a crossroad. There is not deep support for career and technical education. With the focus of common core standards, next generation assessments, teacher
effectiveness based on student performance, and the need to prepare students for
the world beyond school, career and technical education has got to bring itself to
academics. In his keynote address he discussed the big shifts: job specific to
applied academics, specialization versus collaboration. In its current state, career
and technical education is seen as a good program for someone else’s child.
Daggett emphasized that it is time for career and technical education proponents
to break the boxes and stop circling the wagons in a defensive posture. The
challenge is whether to put common core standards, next generation assessments,
and effective teacher assessment into career and technical education, or to put
career and technical education into common core standards, next generation
assessments, and effective teacher evaluation. During a separate presentation,
Daggett (2011) proposed that career and technical education become the research
and development (R & D) center of education.
CHAPTER 3

METHODOLOGY

This chapter presents the research design and procedures used in this study. Specific subjects were research questions, research design, population and sample, sampling procedures, instrumentation, data collection procedures, and data analysis.

The purpose of this study was to compare the 2011 Arizona Department of Education AIMS test results of CTE students in ten Northeastern Arizona high schools affiliated with NAVIT to the perceptions of their respective superintendents, principals, assistant principals, and deans. The study also compared the 2011 Arizona Department of Education AIMS test results of CTE students in seven primarily rural and similarly sized non-NAVIT high schools to the perceptions of their respective superintendents, principals, assistant principals, and deans. Lastly, the purpose of the study was to compare the 2011 Arizona Department of Education AIMS pass rates of CTE students affiliated with NAVIT schools as well as non-NAVIT schools to the statewide CTE student AIMS pass rates.

The study employed a quantitative research design to help answer the research questions. The survey data were collected from superintendents, high school principals, high school assistant principals, and high school deans from ten high schools affiliated with Northern Arizona Vocational Institute of Technology (NAVIT) as well as seven non-NAVIT high schools in predominantly rural
Arizona. Comparisons were made with the academic performance of the subgroup referred to as CTE concentrators.

**Restatement of the Problem**

The influences of a principal can have a profound effect on school climate, culture, and student achievement. The influences of superintendents can also have an effect on student achievement. In an effort to meet as many needs as possible, while under increasing pressures, principals tend to do what they know best drawing from their personal backgrounds. Few high school principals or superintendents have backgrounds in Career and Technical Education. A disproportionate number of superintendents do not have backgrounds in secondary administration and/or teaching at the secondary level. Fewer still have direct experience in Career and Technical Education. The results of that lack of background and understanding in Career and Technical Education can have a negative impact on student achievement in skill attainment, opportunities for success within specific CTE programs of study, and overall high school levels of academic achievement.

**Research Questions**

1. What are administrators’ perceptions of Career and Technical Education?

2. Do administrators perceive Career and Technical Education as a form of tracking?
3. Do administrators view students who participate in Career and Technical Education Programs differently in terms of potential for academic and career success?

4. Do NAVIT administrators’ perceptions of career and technical education students differ from non-NAVIT administrators’ perceptions?

5. Are those similarities or differences reflected in the respective academic achievement levels in the 2011 AIMS results in reading, math, and writing of NAVIT and non-NAVIT school districts?

Subquestion A: How do NAVIT concentrators’ AIMS reading, math, and writing pass rates compare to the 2011 Arizona statewide CTE concentrator pass rates in reading, math, and writing?

Subquestion B: How do non-NAVIT concentrators’ AIMS reading, math, and writing pass rates compare to the 2011 Arizona statewide CTE concentrator pass rates in reading, math, and writing?

Subquestion C: How did NAVIT concentrators’ 2011 AIMS reading, math, and writing pass rates compare to the non-NAVIT concentrators 2011 AIMS reading, math, and writing pass rates?

Research Design

This quantitative descriptive research study was designed using a survey of superintendents and high school administrators in Arizona to determine whether or not administrators’ perceptions of career and technical education
students affected their academic achievement. The study also used the results of the 2010/2011 the Arizona Instrument to Measure Standards (AIMS).

**Population and Sample**

The population for this study included all Arizona high school CTE student concentrators who took the AIMS test during the 2010/2011 school year. In addition, composite student AIMS scores from ten NAVIT high schools were used in the analysis as well as composite student AIMS scores from seven non-NAVIT high schools were used. All Arizona public schools, including charter schools, are required to administer Arizona’s Instrument to Measure Standards, a standards-based assessment. The AIMS assessment measures student proficiency in Arizona’s academic content standards in writing, reading, mathematics, and science.

A purposive sampling of superintendents, high school principals, assistant principals, and deans of ten school districts within NAVIT and the State of Arizona were administered a survey via the online program, Survey Monkey®. Those school districts were selected due to their relationship with NAVIT through independently approved intergovernmental agreements that provide alignment in career and technical education programs. The school districts included were Blueridge, Show Low, Heber, Payson, Holbrook, Winslow, St. Johns, Round Valley, Joseph City, and Snowflake. A total of 611 NAVIT CTE concentrators took the AIMS reading, writing, and math assessments. Additionally, seven high schools with career and technical education programs predominantly in rural
Arizona, which were not affiliated with NAVIT, were sampled. The school districts not affiliated with NAVIT were Flagstaff (two high schools: Flagstaff High School, and Coconino High School), Williams, Page, Globe, Safford, and Thatcher. A total of 642 non-NAVIT CTE concentrators took the AIMS reading assessment, 646 non-NAVIT CTE concentrators took the AIMS math assessment, and 643 non-NAVIT CTE concentrators took the AIMS writing assessment. Throughout Arizona 16,241 CTE concentrators took the AIMS reading assessment in 2010/2011, 16,266 CTE concentrators took the AIMS math assessment in 2010/2011, and 16,248 CTE concentrators took the AIMS writing assessment in 2010/2011.

**Sampling Procedures**

Using a purposive sampling approach, the survey was sent via email to ten superintendents, ten principals, seven assistant principals, and one dean of students within school districts affiliated with NAVIT. The same survey was sent via email to seven superintendents, six principals, seven assistant principals and one dean as part of the non-NAVIT schools.

**Instrumentation**

The online survey used a five-point Likert scale with a response range of strongly disagree to strongly agree. The survey consisted of items which were intended to assess administrators’ perceptions of the following areas: college/postsecondary preparation, career guidance and counseling, academic tracking, and curriculum. The survey questions were developed by the principal
investigator and co-investigator (see Appendix C). The questions were designed to measure administrators’ perceptions of career and technical education, students who participated in CTE programs, college preparation, career preparation, and academic tracking.

**Data Collection Procedures**

Data collection began on February 14, 2011 and was completed on March 30, 2011. Surveys (Appendix C) were sent via Survey Monkey® to ten superintendents, one assistant superintendent, ten principals, seven assistant principals, and one dean of students all affiliated with NAVIT schools. Each of the 29 administrators received a letter from the researcher informing them that the survey was forthcoming. The letter was sent mailed on February 7, 2011. The letter also explained the purpose of the research (Appendix D). Respondents were assured that neither their personal identity nor the identity of their school district would be released in the dissertation. The administrators were asked to complete the survey in five working days. Those who did not respond received a follow up email from the researcher (Appendix E). By February 28, a total of 21 surveys were completed for a response rate of approximately 72%.

On March 10, 2011, 22 administrators from the non-NAVIT schools were contacted via email from the researcher (Appendix D). The survey was sent to seven superintendents, six principals, seven assistant principals, and two deans. That email included a link to the survey. A second follow up email (Appendix E) with the survey to non-respondents was sent on March 21. By March 30, a total of
14 non-NAVIT respondents had completed the survey for a response rate of 64%. Combining the responses 35 out of 51 sent out produced a 69% response rate.

**Data Analysis**

The survey questions (Appendix C) were designed to measure administrators’ attitudes or opinions about college preparation, college and career readiness, a generalized high school curriculum, tracking, careers relative to race, the status of core academic teachers, and the socioeconomic status of students who enroll in CTE programs to prepare for the workplace after high school. The responses *strongly disagree* and *disagree* were combined as one response: *disagree*. The responses *agree* and *strongly agree* were combined as one response: *agree*. The following comparisons were conducted:

A comparison of the NAVIT survey results, non-NAVIT survey results, and combined NAVIT/non-NAVIT survey results.

The academic performance of CTE students, based on the AIMS reading, math, and writing assessments were measured in the following categories as established by the Arizona Department of Education:

1S1: Academic Reading Attainment
1S2: Academic Math Attainment
Writing Attainment (non-Federal reporting requirement)

This data allowed comparison of CTE Statewide performance to local CTE performance. Data were presented for the 2010/2011 school year.
1. 2011 Statewide AIMS performance of CTE students compared to composite performance of NAVIT CTE concentrators.

2. 2011 Statewide AIMS performance of CTE students compared to the non-NAVIT CTE concentrators.
CHAPTER 4

FINDINGS

The purpose of this study was to compare the 2011 Arizona Department of Education AIMS test data of CTE students in ten Northeastern Arizona high schools affiliated with NAVIT to the consolidated perceptions of superintendents, high school principals, and high school assistant principals. The study sought to determine whether or not there were identifiable comparisons between the administrators’ perceptions and career and technical education students’ achievements in the core academic areas of reading, math, and writing as assessed by the AIMS test. The purpose of consolidating the survey responses was to explore whether or not general perceptions prevailed among the administrators throughout the NAVIT school districts reflected in CTE student performance. These perceptions were indicators of possible deep-seated beliefs.

The study also correlated the 2011 Arizona Department of Education AIMS test data of CTE student concentrators to the perceptions of superintendents, high school principals, and high school assistant principals in seven primarily rural and similar sized non-NAVIT high schools in Arizona. The study sought to determine whether or not there were identifiable correlations between administrators’ perceptions and student achievement in core academic areas of reading, math, and writing as assessed by the AIMS test. The purpose of consolidating the surveyed perceptions was to explore whether or not general perceptions prevailed among the administrators throughout the non-NAVIT
school districts were reflected in CTE student performance. Finally, the perceptions of both NAVIT and non-NAVIT administrators were combined and analyzed to compare perceptions that may have influenced CTE students’ academic performance. The academic performance of both NAVIT and non-NAVIT CTE students, as measured by the AIMS test, were also be compared to all CTE concentrators in the State of Arizona.

The data were gathered to provide insight into the following research questions:

1. What are administrators’ perceptions of Career and Technical Education?

2. Do administrators perceive Career and Technical Education as a form of tracking?

3. Do administrators view students who participate in Career and Technical Education programs differently in terms of potential for academic and career success?

4. Do NAVIT administrators’ perceptions of career and technical education students differ from non-NAVIT administrators’ perceptions?

5. Are those similarities or differences reflected in the respective academic achievement levels in the 2011 AIMS results in reading, math, and writing of NAVIT and non-NAVIT school districts?
Subquestion A: How do NAVIT concentrators’ AIMS reading, math, and writing scores compare to the 2011 Arizona statewide CTE concentrator scores in reading, math, and writing?

Subquestion B: How do non-NAVIT concentrators’ AIMS reading, math, and writing scores compare to the 2011 Arizona statewide CTE concentrator scores in reading, math, and writing?

Subquestion C: How did NAVIT concentrators’ 2011 AIMS reading, math, and writing pass rates compare to the non-NAVIT concentrators 2011 AIMS reading, math, and writing pass rates?

Presentation of Survey Responses

The survey questions and responses were organized into the following categories: college/postsecondary preparation, career guidance and counseling, academic tracking, and curriculum. Each table is correlated to a specific survey question. Tables 1 through 3 addressed college/postsecondary perceptions. Tables 4 through 8 addressed perceptions related to career guidance and counseling. Tables 9 through 11 focused on perceptions connected to curriculum. Tables 12 through 14 focused on perceptions of career preparation in high schools. Tables 15 through 20 focused on perceptions related to academic tracking. The survey responses strongly disagree and disagree were combined and are referred to as disagreed. The survey responses agree and strongly agree were also combined and are referred to as agreed.
Research Question 1

Research Question 1 asked, “What are administrators’ perceptions of Career and Technical Education?” To determine whether there were similarities and differences in NAVIT and non-NAVIT administrators’ perceptions of career and technical education Tables 1 through 5 were analyzed.

As seen in Table 1, the combined responses show that 40% disagreed with the statement. Only 28.5% of the NAVIT administrators disagreed compared to 57.1% of non-NAVIT administrators. By comparison, two thirds (66.7%) of NAVIT administrators agreed and 43% of the non-NAVIT administrators agreed, or 57% of all NAVIT/non-NAVIT responses.

Table 1

Question 1: All High School Students Should Be Exposed to College Courses

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT</th>
<th></th>
<th>NON-NAVIT</th>
<th></th>
<th>Combined</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(21)</td>
<td>Percent</td>
<td>(N)14</td>
<td>Percent</td>
<td>(N)35</td>
<td>Percent</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>4.8</td>
<td>1</td>
<td>7.1</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>5</td>
<td>23.8</td>
<td>7</td>
<td>50.0</td>
<td>12</td>
<td>34.3</td>
</tr>
<tr>
<td>No opinion</td>
<td>1</td>
<td>4.8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>52.4</td>
<td>4</td>
<td>28.6</td>
<td>15</td>
<td>42.9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3</td>
<td>14.3</td>
<td>2</td>
<td>14.3</td>
<td>5</td>
<td>14.3</td>
</tr>
</tbody>
</table>
Table 2 shows NAVIT administrators had no disagreement with the statements; whereas, only one non-NAVIT administrator disagreed with the statement. A combined 2.91% of NAVIT/non-NAVIT administrators disagreed. By comparison, 100% of the NAVIT administrators agreed with the statement, 92.9% of the non-NAVIT administrators agreed, and 97.1% of the combined NAVIT and non-NAVIT administrators agreed.

Table 2

*Question 2: Students in Career and Technical Education Programs Have College or University Opportunities*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT (N)14</th>
<th>Percent</th>
<th>Combined (N)35</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7.1</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>No opinion</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
<td>66.7</td>
<td>7</td>
<td>50.0</td>
<td>21</td>
<td>60.0</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>7</td>
<td>33.3</td>
<td>6</td>
<td>42.9</td>
<td>13</td>
<td>37.1</td>
</tr>
</tbody>
</table>
As seen in Table 3 none of the NAVIT and non-NAVIT administrators disagreed with the statement. In comparison, all (100%) of the NAVIT administrators and non-NAVIT administrators agreed with the question.

Table 3

*Question 19: University and College Recruiters Are Welcomed and Invited to Visit the High School(S) in my District*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT (N)14</th>
<th>Percent</th>
<th>Combined (N)35</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No opinion</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agree</td>
<td>6</td>
<td>28.6</td>
<td>5</td>
<td>35.7</td>
<td>11</td>
<td>31.4</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>15</td>
<td>71.4</td>
<td>9</td>
<td>64.3</td>
<td>24</td>
<td>68.6</td>
</tr>
</tbody>
</table>
Table 4 shows that 20.6% of the combined NAVIT/non-NAVIT administrators disagreed with the statement. Only 10% of the NAVIT administrators disagreed compared to 35.7% of the non-NAVIT administrators. This compares to 55.9% of combined NAVIT/non-NAVIT administrators who agreed with the statement, with 75% of the NAVIT administrators in agreement, and 28.6% of the non-NAVIT administrators in agreement. Fifteen percent of the NAVIT administrators had no opinion, 35.7% of the non-NAVIT administrators had no opinion, and 23.5% (nearly one quarter) of the combined NAVIT/non-NAVIT administrators had no opinion.

Table 4

*Question 13: It Is Effective to Have a High School Counselor Dedicated to Students Who Are Focused on Acceptance into Four Year Colleges and Universities.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT N(14)</th>
<th>Percent</th>
<th>Combined N(35)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>10.0</td>
<td>5</td>
<td>35.7</td>
<td>7</td>
<td>20.6</td>
</tr>
<tr>
<td>No opinion</td>
<td>3</td>
<td>15.0</td>
<td>5</td>
<td>35.7</td>
<td>8</td>
<td>23.50</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>55.0</td>
<td>4</td>
<td>28.6</td>
<td>15</td>
<td>44.1</td>
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<tr>
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<td>4</td>
<td>20.0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>11.8</td>
</tr>
</tbody>
</table>

*Note.* One person skipped the question.
Table 5 shows the responses of those who disagreed with the statement were non-NAVIT administrators (14.3%). The combined NAVIT/non-NAVIT responses who agreed were 71.4%, of which 81% were NAVIT and 57.1% non-NAVIT administrators. Nineteen percent of the NAVIT administrators had no opinion, 28.6% of the non-NAVIT administrators had no opinion, and 22.9% (nearly one quarter) of the combined NAVIT and non-NAVIT administrators had no opinion.

Table 5

Question 15: I Believe More Students Should Be Counseled in STEM Careers (Science, Technology, Engineering, And Math).

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT</th>
<th>Percent</th>
<th>NON-NAVIT</th>
<th>Percent</th>
<th>Combined</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>14.3</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>No opinion</td>
<td>4</td>
<td>19.0</td>
<td>4</td>
<td>28.6</td>
<td>8</td>
<td>22.9</td>
</tr>
<tr>
<td>Agree</td>
<td>16</td>
<td>76.2</td>
<td>7</td>
<td>50.0</td>
<td>23</td>
<td>65.7</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>4.8</td>
<td>1</td>
<td>7.1</td>
<td>2</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Research Question 2

Research Question 2 asks, “Do administrators perceive Career and Technical Education as a form of tracking?” To determine whether or not there were similarities or differences between NAVIT and non-NAVIT administrators’ perceptions of tracking, Tables 6 through 10 were analyzed.
As depicted in Table 6 only the NAVIT administrators disagreed with the statement, 23.8%; none strongly disagreed. The administrators’ responses for agree and strongly agree were 76.2% for NAVIT, 71.4% for non-NAVIT, and 74.3% for NAVIT/non-NAVIT combined. Twenty-eight percent of the non-NAVIT respondents had no opinion.

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT</th>
<th>NON-NAVIT</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(21)</td>
<td>Percent</td>
<td>(N)14</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>5</td>
<td>23.8</td>
<td>0</td>
</tr>
<tr>
<td>No opinion</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Agree</td>
<td>13</td>
<td>61.9</td>
<td>10</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3</td>
<td>14.3</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 6

*Question 16: High School Counselors Help Track Students Into Academic Programs That Are Best Suited to Their Interests and Ability Levels.*
Table 7 shows that 14.3% of the NAVIT administrators disagreed with the statement; whereas, 7.1% of the non-NAVIT administrators disagreed with the statement. A combined 11.4% of the NAVIT/non-NAVIT administrators disagreed with the statement. The administrators who agreed were 80.1% of NAVIT, 78.6% of non-NAVIT, and 80% of NAVIT/non-NAVIT combined. Nearly 5% of the NAVIT administrators had no opinion, 14.3% of the non-NAVIT administrators had no opinion, and 8.6% of the combined NAVIT/non-NAVIT administrators had no opinion.

Table 7

*Question 4: Career Interest Inventories Are Effective in Determining What Courses High School Students Should Take.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT N(14)</th>
<th>Percent</th>
<th>Combined N(35)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>14.3</td>
<td>1</td>
<td>7.1</td>
<td>4</td>
<td>11.4</td>
</tr>
<tr>
<td>No opinion</td>
<td>1</td>
<td>4.8</td>
<td>2</td>
<td>14.3</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
<td>66.7</td>
<td>8</td>
<td>57.1</td>
<td>22</td>
<td>62.9</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3</td>
<td>14.3</td>
<td>3</td>
<td>21.4</td>
<td>6</td>
<td>17.1</td>
</tr>
</tbody>
</table>
As seen in Table 8 none of the administrators surveyed disagreed with the statement. By comparison, all of the administrators surveyed agreed with the statement.

Table 8

*Question 18: Students Need Guidance as to What Career Options Are Available After High School.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT (N)14</th>
<th>Percent</th>
<th>Combined (N)35</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No opinion</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
<td>47.6</td>
<td>3</td>
<td>21.4</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>11</td>
<td>52.3</td>
<td>11</td>
<td>75.6</td>
<td>22</td>
<td>62.9</td>
</tr>
</tbody>
</table>
Table 9 shows that 42.9% of the NAVIT administrators disagreed with the statement, but only 14.3% non-NAVIT administrators disagreed with the statement. A combined 31.4% NAVIT/non-NAVIT administrators disagreed with the statement. By contrast, 52.4% of NAVIT administrators and 78.6% of non-NAVIT administrators agreed with that statement for a combined 62.9%. One NAVIT administrator and one non-NAVIT administrator had no opinion.

Table 9

*Question 6: High School Students Should Be Focused On Their Curricular Choices Before the 8th Grade.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT N(14)</th>
<th>Percent</th>
<th>Combined N(35)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>2</td>
<td>9.5</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>7</td>
<td>33.3</td>
<td>2</td>
<td>14.3</td>
<td>9</td>
<td>25.7</td>
</tr>
<tr>
<td>No opinion</td>
<td>1</td>
<td>4.8</td>
<td>1</td>
<td>7.1</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Agree</td>
<td>8</td>
<td>38.1</td>
<td>9</td>
<td>64.3</td>
<td>17</td>
<td>48.6</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3</td>
<td>14.3</td>
<td>2</td>
<td>14.3</td>
<td>5</td>
<td>14.3</td>
</tr>
</tbody>
</table>
As seen in Table 10, 17.1% of the combined NAVIT/non-NAVIT administrators disagreed with the statement, or 19.0% of NAVIT and 14.3% of non-NAVIT respondents. The administrators who agreed with the statement were 81% of NAVIT, 85.7% of Non-NAVIT, and 82.9% of NAVIT/non-NAVIT combined.

Table 10

*Question 7: Placing Students in Challenging Academic Courses Is Important for all Students.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT</th>
<th>NON-NAVIT</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>N(21)</td>
<td>Percent</td>
<td>(N)14</td>
<td>Percent</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>19.0</td>
<td>2</td>
</tr>
<tr>
<td>No opinion</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>52.4</td>
<td>5</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>6</td>
<td>28.6</td>
<td>7</td>
</tr>
</tbody>
</table>
Research Question 3

Do administrators view students who participate in Career and Technical Education programs differently in terms of potential for academic and career success? To determine whether or not there were similarities or differences between NAVIT and non-NAVIT administrators’ perceptions of career and technical education participation, Tables 11 through 15 were analyzed.

Table 11 shows that one administrator disagreed with the statement. By comparison 97% of all administrators who responded to the survey agreed with the statement.

Table 11

Question 5: A Flexible High School Curriculum That Meets Students’ Needs Is Important.

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT N(14)</th>
<th>Percent</th>
<th>Combined N(35)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>4.8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No opinion</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agree</td>
<td>7</td>
<td>33.3</td>
<td>4</td>
<td>28.6</td>
<td>11</td>
<td>31.4</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>13</td>
<td>62.0</td>
<td>10</td>
<td>71.4</td>
<td>23</td>
<td>65.7</td>
</tr>
</tbody>
</table>
As seen in Table 12, one administrator disagreed with the statement. Of the NAVIT administrators, 90.5% agreed with the statement, 85.7% of the non-NAVIT administrators agreed, and 88.6% of the combined NAVIT/non-NAVIT respondents agreed with the statement. Two NAVIT administrators had no opinion and one non-NAVIT administrator had no opinion for combined NAVIT/non-NAVIT total of 8.6%.

Table 12

Question 9: Special Needs Students Should Be Encouraged to Enter the Careers That They Desire.

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT N(14)</th>
<th>Percent</th>
<th>Combined N(35)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7.1</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>No opinion</td>
<td>2</td>
<td>9.5</td>
<td>1</td>
<td>7.1</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>Agree</td>
<td>15</td>
<td>71.4</td>
<td>8</td>
<td>5.7</td>
<td>23</td>
<td>65.7</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>4</td>
<td>19.0</td>
<td>4</td>
<td>28.6</td>
<td>8</td>
<td>22.9</td>
</tr>
</tbody>
</table>
Table 13 shows that no administrators disagreed with the statement. One hundred percent of NAVIT and non-NAVIT administrators who participated in the questions agreed with that statement. One non-NAVIT administrator elected to skip the question.

Table 13

*Question 11: Students Should Be Encouraged to Make Career Choices Regardless of Their Gender.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT (N)14</th>
<th>Percent</th>
<th>Combined (N)35</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
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<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No opinion</td>
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<td>0</td>
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<tr>
<td>Agree</td>
<td>7</td>
<td>33.3</td>
<td>5</td>
<td>38.4</td>
<td>12</td>
<td>35.2</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>14</td>
<td>66.7</td>
<td>8</td>
<td>61.5</td>
<td>22</td>
<td>64.7</td>
</tr>
</tbody>
</table>

*Note.* One person skipped the question.
As seen in Table 14, one NAVIT administrator disagreed with the statement; whereas, two non-NAVIT administrators disagreed with the statement. In comparison, 90.5% of the NAVIT administrators agreed with the statement, 71.4% of non-NAVIT administrators agreed with the statement, and 82.9% of combined NAVIT/non-NAVIT administrators agreed with the statement. One NAVIT administrator had no opinion, and two non-NAVIT administrators had no opinion.

Table 14

*Question 17: It Is Challenging to Offer High School Career Options for Students at Various Ability Levels.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT N(35)</th>
<th>Percent</th>
<th>Combined N(35)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>4.8</td>
<td>2</td>
<td>14.3</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>No opinion</td>
<td>1</td>
<td>4.8</td>
<td>2</td>
<td>14.3</td>
<td>3</td>
<td>8.6</td>
</tr>
<tr>
<td>Agree</td>
<td>16</td>
<td>76.1</td>
<td>8</td>
<td>57.1</td>
<td>24</td>
<td>8.6</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3</td>
<td>14.3</td>
<td>2</td>
<td>14.3</td>
<td>5</td>
<td>14.3</td>
</tr>
</tbody>
</table>
Table 15 shows that 14.3% of the NAVIT administrators disagreed with the statement, 28.6% of non-NAVIT administrators disagreed with the statement, and 20% of combined NAVIT/non-NAVIT administrators disagreed with the statement. Comparatively, 81% of the NAVIT administrators agreed with the statement, 71.4% of non-NAVIT administrators disagreed with the statement, and 77.1% NAVIT/non-NAVIT administrators combined agreed with the statement.

One NAVIT administrator had no opinion on the question.

Table 15

*Question 3: All High School Students Should Take a Career and Technical Education Course.*

<table>
<thead>
<tr>
<th></th>
<th>NAVIT</th>
<th></th>
<th>NON-NAVIT</th>
<th></th>
<th>Combined</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(21)</td>
<td>Percent</td>
<td>N(14)</td>
<td>Percent</td>
<td>N(35)</td>
<td>Percent</td>
</tr>
<tr>
<td>Strongly disagree</td>
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<td>0</td>
<td>1</td>
<td>7.1</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>14.3</td>
<td>3</td>
<td>21.4</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td>No opinion</td>
<td>1</td>
<td>4.8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
<td>66.7</td>
<td>9</td>
<td>42.9</td>
<td>23</td>
<td>65.7</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>3</td>
<td>14.3</td>
<td>1</td>
<td>7.1</td>
<td>4</td>
<td>11.4</td>
</tr>
</tbody>
</table>

**Research Question 4**

Research Question 4 asks, “Do NAVIT administrator’s perceptions of career and technical education students differ from non-NAVIT administrators perceptions?” To determine whether there were similarities or differences
between NAVIT and non-NAVIT administrators, Tables 16 through 20 were analyzed.

As seen in Table 16, 10% of the NAVIT administrators disagreed with the statement and 14.3% of non-NAVIT administrators disagreed with the statement for a combined NAVIT/non-NAVIT total of 11.8%. Sixty percent of the NAVIT administrators agreed with the statement, 64.3% of non-NAVIT administrators agreed for a combined NAVIT/non-NAVIT total of 61.8%. Six (30%) of the NAVIT administrators had no opinion, two (14.3%) of non-NAVIT administrators had no opinion, and eight (22.9%) of combined NAVIT/non-NAVIT administrators had no opinion. One NAVIT administrator elected to skip the question.

Table 16

*Question 14: Broad Groupings of Academic Ability Levels in Core High School Classes Benefit all Students.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT</th>
<th>NON-NAVIT</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(21)</td>
<td>(N)14</td>
<td>(N)35</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>No opinion</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Agree</td>
<td>8</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

*Note.* One person skipped the question.
Table 17 shows that no NAVIT administrators and no non-NAVIT administrators disagreed with the statement. By comparison 100% of NAVIT administrators agreed with the statements as did 100% of the non-NAVIT administrators.

Table 17

*Question 8: Some Students Are Better Suited to Hands-On Occupations Than Others.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT N(21)</th>
<th>Percent</th>
<th>NON-NAVIT (N)14</th>
<th>Percent</th>
<th>Combined (N)35</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No opinion</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Agree</td>
<td>14</td>
<td>66.7</td>
<td>9</td>
<td>64.3</td>
<td>23</td>
<td>65.7</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>7</td>
<td>33.3</td>
<td>5</td>
<td>35.7</td>
<td>12</td>
<td>34.3</td>
</tr>
</tbody>
</table>
As seen in Table 18, 66.7% of the NAVIT administrators disagreed with the statement, 57.1% of non-NAVIT administrators disagreed, and 65.7% of NAVIT/non-NAVIT administrators combined disagreed with the statement. Comparatively, 9.5% of the NAVIT administrators agreed, 21.4% of non-NAVIT, and 14.3% of NAVIT/non-NAVIT administrators combined agreed. There were 23.8% of the NAVIT administrators who had no opinion, as well as 21.4% of non-NAVIT administrators who had no opinion. Nearly one quarter (22.9%) of all NAVIT/non-NAVIT administrators had no opinion.

Table 18

Question 20: Students of Color and/or Lower Socioeconomic Groups Represent a Disproportionately Larger Percentage of Career and Technical Education Enrollment.

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT</th>
<th>Percent</th>
<th>NON-NAVIT</th>
<th>Percent</th>
<th>Combined</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>3</td>
<td>14.3</td>
<td>2</td>
<td>14.3</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td>Disagree</td>
<td>11</td>
<td>52.4</td>
<td>6</td>
<td>42.9</td>
<td>17</td>
<td>48.6</td>
</tr>
<tr>
<td>No opinion</td>
<td>5</td>
<td>23.8</td>
<td>3</td>
<td>21.4</td>
<td>8</td>
<td>22.9</td>
</tr>
<tr>
<td>Agree</td>
<td>2</td>
<td>9.5</td>
<td>3</td>
<td>21.4</td>
<td>5</td>
<td>14.3</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 19 shows that 52.4% of the NAVIT administrators disagreed with the statement, 28.6% of the non-NAVIT administrators disagreed, and 42.9% of the combined NAVIT/non-NAVIT administrators disagreed with the statement. In comparison, 19.0% of the NAVIT administrators agreed with the statement, 21.4% of non-NAVIT administrators agreed with the statement, and 20.0% of combined NAVIT/non-NAVIT administrators agreed with the statement. Six (28.6%) of the NAVIT administrators had no opinion, seven (50%) of non-NAVIT administrators had no opinion, and 13 (37.1%) of combined NAVIT/non-NAVIT administrators had no opinion.

Table 19

*Question 12: Students With Discipline Issues Do Well in Career and Technical Education Programs.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT</th>
<th></th>
<th>NON-NAVIT</th>
<th></th>
<th>Combined</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(21)</td>
<td>Percent</td>
<td>(N)14</td>
<td>Percent</td>
<td>(N)35</td>
<td>Percent</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>4.8</td>
<td>1</td>
<td>7.1</td>
<td>2</td>
<td>5.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>10</td>
<td>47.6</td>
<td>3</td>
<td>21.4</td>
<td>13</td>
<td>37.1</td>
</tr>
<tr>
<td>No opinion</td>
<td>6</td>
<td>28.6</td>
<td>7</td>
<td>50.0</td>
<td>13</td>
<td>37.1</td>
</tr>
<tr>
<td>Agree</td>
<td>3</td>
<td>14.3</td>
<td>3</td>
<td>21.4</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>4.8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>28.6</td>
</tr>
</tbody>
</table>
As seen in Table 20, 66.7% of the NAVIT administrators disagreed with the statement, 57.1% of non-NAVIT administrators disagreed with the statement, and 62.9% of NAVIT/non-NAVIT administrators combined disagreed with the statement. Nineteen percent of NAVIT administrators agreed with the statement, 28.6% of non-NAVIT administrators agreed with the statement, and 22.9% of NAVIT/non-NAVIT administrators combined agreed with the statement. Of both NAVIT and non-NAVIT administrators, 14.3% had no opinion.

Table 20

*Question 10: Teachers in the Core Academic Disciplines Should Receive Higher Salaries.*

<table>
<thead>
<tr>
<th>Responses</th>
<th>NAVIT</th>
<th></th>
<th>NON-NAVIT</th>
<th></th>
<th>Combined</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N(21)</td>
<td>Percent</td>
<td>(N)14</td>
<td>Percent</td>
<td>(N)35</td>
<td>Percent</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>2</td>
<td>9.5</td>
<td>2</td>
<td>14.3</td>
<td>4</td>
<td>11.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>12</td>
<td>5.7</td>
<td>6</td>
<td>42.9</td>
<td>18</td>
<td>51.4</td>
</tr>
<tr>
<td>No opinion</td>
<td>3</td>
<td>14.3</td>
<td>2</td>
<td>14.3</td>
<td>5</td>
<td>14.3</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
<td>19.0</td>
<td>3</td>
<td>21.4</td>
<td>7</td>
<td>20.0</td>
</tr>
<tr>
<td>Strongly agree</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>7.1</td>
<td>1</td>
<td>2.9</td>
</tr>
</tbody>
</table>
Research Question 5


To determine whether or not similarities or differences existed, Table 21 was analyzed. Table 21 shows little variation in AIMS reading, math, and writing scores between NAVIT, non-NAVIT, and the Statewide CTE students. NAVIT Mean scores were slightly higher that non-NAVIT Mean scores in reading, math, and writing. By comparison, the Statewide CTE student Mean scores were slightly higher than NAVIT in reading, math, and writing.
Table 21

2011 CTE Concentrator AIMS Pass Rates (Percent)

<table>
<thead>
<tr>
<th></th>
<th>NAVIT</th>
<th>Non-NAVIT</th>
<th>Statewide CTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N) Schools</td>
<td>10</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>AIMS reading % passed</td>
<td>93.5</td>
<td>91.6</td>
<td>95.2</td>
</tr>
<tr>
<td>(N) Reading students tested</td>
<td>611</td>
<td>642</td>
<td>16,241</td>
</tr>
<tr>
<td>AIMS math % passed</td>
<td>87.4</td>
<td>86.4</td>
<td>89.2</td>
</tr>
<tr>
<td>(N) Math students tested</td>
<td>611</td>
<td>646</td>
<td>16,266</td>
</tr>
<tr>
<td>AIMS writing % passed</td>
<td>95.1</td>
<td>92.4</td>
<td>95.5</td>
</tr>
<tr>
<td>(N) Writing students tested</td>
<td>611</td>
<td>643</td>
<td>16,248</td>
</tr>
</tbody>
</table>
CHAPTER 5
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of the Study

Purpose of the Study

The purpose of this study was to compare high school administrators’ perceptions of career and technical education and CTE students in ten northeastern Arizona high schools affiliated with NAVIT (Northern Arizona Vocational Institute of Technology) to the same perceptions of administrators affiliated with seven similarly sized non-NAVIT high schools in Arizona. The study also compared the 2011 Arizona Department of Education AIMS test results of CTE student concentrators affiliated with NAVIT schools and students in non-NAVIT schools to the statewide CTE student concentrator AIMS test results.

The following research questions were examined:

1. What are administrators’ perceptions of Career and Technical Education?

2. Do administrators perceive Career and Technical Education as a form of tracking?

3. Do administrators view students who participate in Career and Technical Education programs differently in terms of potential for academic and career success?
Do NAVIT administrators’ perceptions of career and technical education students differ from non-NAVIT administrators’ perceptions?

Are those similarities or differences reflected in the respective academic achievement levels in the 2011 AIMS results in reading, math, and writing of NAVIT and non-NAVIT school districts?

*Subquestion A:* How did NAVIT concentrators’ 2011 AIMS reading, math, and writing scores compare to the 2011 Arizona statewide CTE concentrators’ scores in reading, math, and writing?

*Subquestion B:* How did non-NAVIT concentrators’ 2011 AIMS reading, math, and writing pass rates compare to the 2011 Arizona statewide CTE concentrators’ pass rates in reading, math, and writing?

*Subquestion C:* How did NAVIT concentrators’ 2011 AIMS reading, math, and writing pass rates compare to the non-NAVIT concentrators 2011 AIMS reading, math, and writing pass rates?

**Review of Methodology**

The study employed a quantitative research design to help answer the research questions. Survey data were collected from predominantly rural Arizona superintendents, high school principals, high school assistant principals, and deans affiliated with ten high schools associated with NAVIT. Survey data were also collected from administrators affiliated with seven high schools not associated with NAVIT. Comparisons were made of the responses of the two
groups of administrators. In addition, NAVIT concentrators’ performance on the AIMS in reading, math, and writing were compared to non-NAVIT concentrators’ scores as well as the statewide CTE concentrators’ Mean scores.

**Major Findings**

In an attempt to answer the first research question, “What are administrators’ perceptions of Career and Technical Education?” the data were analyzed and compared for both NAVIT and non-NAVIT. Both groups were divided on the idea that all high school students should be exposed to college classes. Both groups of administrators responded almost entirely in favor of college opportunities for those students enrolled in career and technical education programs of study, which suggested that both groups viewed students in CTE programs to be college capable. The survey results suggested that both sets of administrators viewed career and technical education as programs that were capable of preparing students for college. It appeared that those administrators viewed career and technical education as rigorous enough for college preparation. The responses suggested that the administrators’ perceptions of career and technical education as a system of delivering education with academic substance.

The answer to the second research question, “Do Administrators perceive Career and Technical Education as a form of tracking?” was affirmed through the positive responses that both NAVIT and non-NAVIT administrators gave in support of the value of career interest inventories, the recognition that students needed guidance as to what career options were available after high school, and
the importance of placing all students in challenging academic courses. Both
groups of administrators supported the use of career interest inventories to help
students determine what high school classes they should take. The focus was on
student interest rather than perceived ability. These responses indicated that both
NAVIT and non-NAVIT administrators may unknowingly support academic
tracking. While these administrators may not routinely force students into tracks,
they likely rely on interest inventories and guidance counselors to place students
into classes and programs of study. The survey responses suggested that
administrators supported a common practice of allowing students to self-track.
This is a process of supporting students to take academic paths of least resistance.

The analysis of Research Question 3 “Do administrators view students
who participate in Career and Technical Education programs differently in terms
of potential for academic and career success?” led the researcher to conclude that
both NAVIT and non-NAVIT administrators viewed students who participated in
CTE programs similarly to non-CTE students in terms of potential for academic
success. That conclusion was derived, in part, by the fact that a majority of both
NAVIT and non-NAVIT administrators supported the idea that all students should
be required to take at least one CTE course. The conclusion was also reached, in
part, because both groups of administrators understood the challenge of offering
high school career options to students of differing ability levels, supporting
gender equity, and encouraging career selection for special needs students. It
appeared that both groups of administrators acknowledged students’ differing
ability levels and attempted to offer academic and career options relative to those perceived abilities. The researcher inferred from the data that career and technical education students were regarded as one of several groups of students within a range of ability levels.

The analysis conducted for Research Question 4, “Do NAVIT administrator’s perceptions of career and technical education students differ from non-NAVIT administrators perceptions?” provided answers as well as questions. In the series of questions the NAVIT administrators indicated that they regarded career and technical education students with college aspirations as part of the mainstream mix of students who were integrated into the normal high school curriculum. The number of “no opinions” on the survey regarding the placement of students of color, lower socioeconomic status, and discipline issues in CTE programs raised questions as to the reluctance to answer potentially controversial questions.

By comparison, the non-NAVIT administrators provided responses to the series of questions that showed a trend suggesting that fewer regarded CTE students as part of the mainstream of the regular high school curriculum with college aspirations. The number of “no opinion” responses by the non-NAVIT administrators regarding the placement of students of color, lower socioeconomic status, and discipline issues in CTE programs also raised questions as to the reluctance to answer potentially controversial questions, although it also raised the question as to why their reluctance to answer these questions.
The answer to Research Question 5, “Are those similarities or differences reflected in the respective academic achievement levels (pass rates) in the 2011 AIMS results in reading, math, and writing of NAVIT and non-NAVIT school districts?” was that marginal differences existed between the Mean pass rates of NAVIT, non-NAVIT, and students statewide. The statewide mean pass rates for reading, math, and writing were highest, followed by the NAVIT reading, math, and writing pass rates. The non-NAVIT groups’ pass rates were lowest. The strength of the NAVIT responses on the survey were generally more favorable towards CTE and CTE students than the non-NAVIT responses. The academic achievement scores reflected this accordingly.

In summary, the research findings were generally favorable towards career and technical education and CTE students. However, the inconsistencies in responses and the number of “no opinions” lead the researcher to suspect that either some of the responses were driven by efforts to be politically correct or out of unwillingness/ inability to process the controversial survey statements. The academic achievement, as measured by AIMS pass rates, were marginally higher for NAVIT students compared to non-NAVIT students. However, the statewide Mean AIMS pass rates for 2011 CTE concentrators was higher than both NAVIT and non-NAVIT CTE concentrators.

Findings Related to the Literature

Leadership is a critical component of student achievement. The role of career and technical education in educational reform is a topic of discussion
among educational leaders. Bennett, Finn, and Cribb’s study (as cited by Waters & Marzano 2006) identified the system of public education as one of the most stubbornly intransigent forces on earth. They described the system of public education as full of people who were dedicated to protecting the status quo. They also described administrators who talk of reform, but whose actions counter efforts to change.

Research conducted by Supovitz et al. (2009) revealed positive correlations between principal leadership and student achievement. First, they reviewed a synthesis of studies conducted by Hallinger and Heck. Those findings concluded that principals had an indirect effect on school effectiveness and student achievement. A second synthesis was conducted by Waters, Marzano, and McNulty, which revealed that there was a substantial relationship between leadership and student achievement. Finally, they cited a study of leadership literature conducted by Leithwood, Seashore, Louis, Anderson, and Wahlstrom, which concluded that school leadership was second only to teaching in terms of student learning. Their own research concluded that principal leadership influenced student learning by the influences in instructional practices in classrooms.

Cawelti and Protheroe (2007) researched school board and central office leadership and discovered that a central theme was superintendent leadership. The role of the superintendent in moving procedure and practice toward improvement at the school level was deemed critical.
The perceptions of administrators as they pertain to career and technical education is of interest as public schools look towards student achievement and school reform. Most high school principals admit that without career and technical education programs they would not be able to offer career readiness opportunities to a significant number of students (Gray, 2004).

This study suggested that both NAVIT and non-NAVIT administrators valued career and technical education, but for different reasons. The study indicated that NAVIT administrators viewed career and technical education as a program that stood equally to other high school programs such as college preparatory and mainstream. Students who participated in CTE programs were viewed as regular students. In the research literature, Martinez (2007) discussed what he saw as the one clear trend in career and technical education, which was that it was becoming more expansive and inclusive. Contemporary CTE programs have reduced the boundaries between college preparation and career preparation (Vail, 2007). Stern et al. (2010) reported that the combination of career preparation with college preparation appears to be successful.

The current study also suggested that the perceptions of the non-NAVIT administrators tended more towards career and technical education as a program that served troubled students, who worked well in hands-on environments. The literature review included the controversial issue of tracking. The literature showed that career and technical education continues to be regarded as a tracked program, both overtly and covertly. Ames and Rosenholtz and Rosenholtz’s study
(as cited in Kelly & Price, 2009) discussed the argument by educational psychologists and sociologists that postulates that students with low levels of perceived competence are attracted to career and technical education in order to avoid that traditionally competitive and socially comparative environment of the college preparatory classrooms. The current study speculated on the process of student self-tracking and speculated that the process may be conveniently facilitated by high schools.

**Recommendations for Further Research**

1. In order to better understand administrators’ perceptions, researchers may benefit from interviews, which would allow researchers to better explore the administrators’ imbedded beliefs as they pertain to the subject of career and technical education.

2. The sample size of this study was small. Future research might include a larger sample size, with fewer and more direct questions pertaining to CTE, tracking, and equity issues.

3. Interviews of administrators, who lead schools with CTE programs that are recognized as progressive and change oriented, would help researchers identify common attitudes.

4. Interviews of administrators who lead charter schools would help researchers identify common attitudes of learning organizations not restrained by the common beliefs of what constitutes a public high school.
5. Studies of student achievement at CTE high schools and CTE magnet schools should be conducted.

6. New studies on tracking and its consequences for students should be undertaken.

7. Former students who have graduated from high school CTE programs should be interviewed to help understand what schools are doing from their perspectives.

**Concluding Remarks**

The researcher believes that school reform, including career and technical education, will be facilitated by a clearer understanding of our deep-seated beliefs about how, where, and when high school students best learn. This study, including the literature review and data collection and analysis, sought to evaluate and compare administrators’ perceptions of career and technical education. The “no opinion” responses in this study suggested that administrators may have felt uncomfortable with some of the statements on the survey. The study also compared the Mean AIMS pass rates of the students who participated in the related programs. In doing so, it encouraged the researcher to ask the question, “Is the term *career and technical education* necessary as public high schools in the United States now press for college and career readiness?” To further that question, “Does the stigma of career and technical education, previously known as vocational education, limit expectations of administrators and reduce academic performance of high school students?”
REFERENCES


Carnevale, A. P. (2010). *Postsecondary education and training as we know it is not enough.* Washington DC: The Urban Institute.


Perkins IV, Sec. 2-1 (2006).


APPENDIX A

ASU IRB APPROVAL
To: Dee Spencer  
From: Mark Roese, Chair  
Date: 02/14/2011  
Committee Action: Exemption Granted  
IRB Action Date: 02/14/2011  
IRB Protocol #: 1102006005  
Study Title: Administrators Perceptions of Student Performance  

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) (4).  

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that it disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subject's financial standing, employability, or reputation.  

You should retain a copy of this letter for your records.
APPENDIX B

PERMISSION LETTER FROM NAVIT
January 18, 2011

Arizona State University
Institutional Review Board

Dear Members of the Institutional Review Board:

This letter is to confirm that I have authorized Arizona State University Graduate Student, Charles Haussman, to survey superintendents, high school principals, assistant principals, and deans in school districts in northeastern Arizona. Mr. Haussman is allowed to use the survey data for his dissertation provided that he agrees not to identify the school districts or any of the individuals involved in the study.

As an Assistant Principal and Director of Career and Technical Education with the Holbrook Unified School District, Mr. Haussman’s work responsibilities are closely connected to the Northern Arizona Institute of Technology (NAVIT) through an Intergovernmental Agreement (IGA). NAVIT, a voter approved Joint Technological Education District (JTED), encompasses eleven school districts, each of which operates its career and technical education programs through IGAs with this organization. I have reviewed the survey instrument that Mr. Haussman has requested permission to use. It is my understanding that Mr. Haussman plans to conduct a study of perceptions of administrators relative to academic achievement of high school students who are engaged in career and technical education programs of study. It is also my understanding that Mr. Haussman does not intend to send any of his surveys to high schools located on the nearby Navajo or Apache Indian Reservations. Mr. Haussman has discussed with me that he intends to analyze publically released composite AIMS test data in his study as the measure of academic achievement.

Should you have any questions for me, please feel free to call me on my cell phone which is (928) 587-7689. Our new office phone is (928) 536-6100.

Respectfully,

Matt Weber
NAVIT Superintendent
APPENDIX C

SURVEY
Administrators’ Perceptions of students’ performance

1. Students in CTE programs have college or university opportunities.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

2. All high school students should be exposed to college courses.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

3. All high school students should take a career and technical education course.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

4. Career Interest Inventories are effective in determining what courses high school students should take.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

5. A flexible high school curriculum that meets the needs of all students is important.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

6. High school students should be focused on their curricular choices before the 9th grade.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

7. Placing students in challenging academic courses is important for all students.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

8. Some students are better suited to hands-on occupations than others.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

9. Special needs students should be encouraged to enter the careers that they desire.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

10. Teachers in the core academic disciplines should receive higher salaries.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

11. Students should be encouraged to make career choices regardless of their gender.

   Strongly Disagree  Disagree  No Opinion  Agree  Strongly Agree

12. Students with discipline issues do well in career and technical education programs.
13. It is effective to have a high school counselor dedicated to students who are focused on acceptance into four year colleges and universities.

14. Broad groupings of academic ability levels in core high school classes benefit all students.

15. I believe more students should be counseled into STEM Careers (Science, Technology, Engineering, and Math).

16. High school counselors help track students into academic programs that are best suited to their interests and ability levels.

17. It is challenging to offer high school career options for students at various ability levels.

18. Students need guidance as to what career options are available after high school.

19. University and college recruiters are welcomed and invited to visit the high school(s) in my district.

20. Students of color and/or lower socioeconomic groups represent a disproportionately larger percentage of career and technical education enrollment.
APPENDIX D

FIRST EMAIL TO PARTICIPANTS
February 24th, 2011
Dear XXXX;

I am a graduate student in the Mary Lou Fulton Teachers College of Education at Arizona State University. My research involves a study of the perceptions of school administrators relative to the academic achievement of high school students who participate in career and technical education programs of study. I am inviting your participation, which will involve responding to twenty on-line survey questions. The survey will take approximately 10 minutes of your time. A link to the survey will be emailed to you.

Your participation in this study is voluntary. You may skip any or all of the survey questions if you wish. If you choose not to participate in the study, there is no penalty.

You will not be identified by name in the survey. Your responses will be anonymous. The results of my analysis will be anonymous. In the analysis I will also look at AIMS Test results, which have been publically released by the Arizona Department of Education. The results of this study may be used in reports, presentations, or publications. Your name and school district’s name will not be used. Results will be shared in aggregate form.

If you have any questions concerning the research study, please contact the research team at: dspencer@asu.edu, Dr. Dee Ann Spencer. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you are invited to contact the Chair of the Human Subjects Institutional Review Board through the Arizona State University Office of Research Integrity and Assurance, at (480) 965-6788.

If you are willing to participate in this study, please complete survey, which will arrive in approximately one week. If you have questions feel free to email me at: haussman@cableone.net, or call me at 928-241-1221. Your survey response will be considered your consent to participate. Thank you for considering this request.

Yours in education,

Charles Haussman
APPENDIX E

FOLLOWUP EMAIL TO PARTICIPANTS
A few weeks ago I sent out a letter and a survey explaining the research that I am conducting in order to move ahead with my dissertation. I am a doctoral candidate at the Mary Lou Fulton Teachers College of Education at Arizona State University. It appears that some of the school district servers are not letting the survey through because I sent it via SurveyMonkey. I request your assistance with this short 20 question survey. It will take less than five minutes to complete. The results of this survey will be helpful in that they may help make a stronger case for the good things that we do in our public schools at the secondary level. Your responses will be anonymous.

If you have any questions concerning the research study, please contact the research team at dspencer@asu.edu. If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you are invited to contact the Chair of the Human Subjects Institutional Review Board through the Arizona State University of Research Integrity and Assurance at (480)965-6788.

If you have any questions feel free to contact me at 928-241-1221. You are also invited to contact me via this email address. Your assistance would be greatly appreciated! If you are willing to complete the survey here is the link. Thank you for any consideration that you may give to this research project!

https://www.surveymonkey.com/s/B88NPF9

Charles Haussman
CTE Director \ Asst. Principal, Holbrook High School
haussman@holbrook.k12_az.us

Holbrook School District
P.O. Box 640
Holbrook, AZ 86025
(928) 524-6144 ext 7008 Direct
(928) 524-3537 Fax

www.holbrook.k12_az.us

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