Successful Career and Technical Education Students’ Perceptions of the Organizational Features that Contribute to their Academic Achievement and Graduation

Melisa Niver

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Abstract
Low graduation rates in the United States indicate a need to better connect the high school curriculum with realities of life beyond high school. The purpose of this study was to develop a theory about successful career and technical education students’ perceptions of the organizational features that contribute to their academic achievement and graduation. This study employed a qualitative methodology and participants were high school senior CTE students. Data was transcribed, coded and analyzed using grounded theory methods. Core categories and themes were revealed through the data analysis to help create an emergent theory which is represented in the Linkages for Lifelong Success model which focuses on respect, equity and opportunities as critical classroom components which lead to students’ increased academic success and increased graduation rates. Implications for hiring teachers, for professional practice and for executive leaders were revealed through the student voices in this study. The research participants gave solid examples of how to change their home schools to take a more comprehensive approach to education. Although it seems simple to provide a classroom environment that fosters equity, respect and opportunities as vehicles for increasing student achievement and graduation rates, it still lies in the realm of the ideal and not what actually takes place in American classrooms. Recommendations for teachers and administrators with regard to CTE includes a comprehensive high school curriculum that involves CTE, an environment in which students are treated in a way that allows them to pursue various career options, and the implementation of the Linkages for Lifelong Success model.

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Successful Career and Technical Education Students’ Perceptions of the Organizational Features that Contribute to their Academic Achievement and Graduation

By

Melisa Niver

Submitted in partial fulfillment of the requirements for the degree Ed.D. in Executive Leadership

Supervised by

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August 2010
Biographical Sketch

Melisa Niver is currently the principal at the Niagara Career and Technical Education Center in Sanborn, NY. Ms. Niver attended the State University College at Brockport, graduating in 1996 with a Bachelor of Science degree. She completed her Master of Science degree in Counselor Education from Canisius College in 1998. In 2002, Ms. Niver received a School Administrator and Supervisor Certificate from the University of the State of New York Education Department and in 2007 earned a School District Administrator certificate from the University of the State of New York Education Department. She began doctoral studies in the summer of 2008 at St. John Fisher College in the Ed.D. Program in Executive Leadership. Ms. Niver pursued her research in career and technical education students’ perceptions of the organizational features that contribute to their academic achievement and graduation under the direction of Dr. Guillermo Montes and received the Ed.D. degree in 2010.
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Implications for hiring teachers, for professional practice and for executive leaders were revealed through the student voices in this study. The research participants gave solid examples of how to change their home schools to take a more comprehensive approach to education.

Although it seems simple to provide a classroom environment that fosters equity, respect and opportunities as vehicles for increasing student achievement and graduation rates, it still lies in the realm of the ideal and not what actually takes place in American classrooms. Recommendations for teachers and administrators with regard to CTE
includes a comprehensive high school curriculum that involves CTE, an environment in which students are treated in a way that allows them to pursue various career options, and the implementation of the Linkages for Lifelong Success model.
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Chapter 1: Introduction

An important issue facing educational leaders today is the low graduation rate from high school (Kritsonis, 2007). Dropout is defined as a student’s departure from high school education before completing all graduation requirements at the end of his/her senior year (Menzer and Hampel, 2009). Lack of high school graduation is a risk factor for later unemployment; unhealthy lifestyle choices, such as drug use and abuse and unsafe sex; as well as living below the federal poverty line. Nationally, the high school graduation rate is at 70% (Glass and Rose, 2008); however, in some cities, the rate is 50% or lower.

In response to this crisis, the National Dropout Prevention Center/Network defined strategies that have the most positive impact on the dropout rate. One of these strategies is to involve students in Career and Technical Education (CTE) programs. Low graduation rates indicate a need to better connect the high school curriculum with the realities of life beyond high school.

Willard Daggett (2004) reports that there is a general consensus among educational leaders about the four roles of education including fostering intellectual development, preparing students to be informed, caring and productive citizens, preparing students for higher education and preparing students for the world of work.

Although there is a consensus about what should exist in schools among educational professionals, as evidenced by the high drop-out rate and low graduation rate in the United States, students still need to increase their skills and find relevance in their
education. DeBlois & Place (2007) in their article *Alternatives for Struggling Learners* discusses how many students feel that traditional schools have left them behind. A strategy for increasing graduation rates is to join academic and technical studies together to create a program of study that helps students see a linkage between their education and the real world, while providing comparable academic skills to those instructed in traditional programs. Career and Technical Education programs that teach 21st century skills advocated by business and industry is a solution that schools can use to motivate more students to make the effort to succeed (Bottoms, 2008).

*Career and Technical Education History*

The first vocational education system in America can be traced to apprenticeship agreements of colonial times. In 1917, President Woodrow Wilson signed the Smith-Hughes Act that was the first to receive federal support for vocational education. This Act was a reflection of reformers who thought that students should be prepared for employment by learning job skills. It called for specific skill training and focused on job skills needed for entry-level employment. The Smith-Hughes Act also required states to create boards for vocational education whose mission was to expand vocational education programs, retain more students, and produce trained workers. States and communities were mandated to match federal funds.

By 1931, the American vocational educational system had grown substantially. As the American Vocational Association President, Charles M. Miller, said, “Vocational education in this country has grown from a small number of small isolated beginnings into a great national education institution” (ACTEonline, 2002, page 23). Recognizing
this growth, the Federal Board for Vocational Education was moved to the Unites States Office of Education by President Roosevelt in 1933.

Throughout World War II, vocational education was critical for both the economy and national defense as many women were trained for the war production work. According to a study done by the US Department of Education, 81% of all employed women from July 1 to December 31, 1942 were working in war production industries and were trained in war production work. After World War II, legislation was passed to make vocational training available to veterans in 1947 (Bray, 2002) in the context of the larger effort of the G.I. Bill of Rights signed into law by President Roosevelt 3 years earlier. By 1952, both presidential candidates, Eisenhower and Stevenson, publicly supported vocational education (Bray, 2002). By the 1960s, vocational education was a known entity. The benefits of vocational education were extended to the disabled community by the 1963 Vocational Education Act, with specific funding and some increased opportunities for students with special needs in the amendments of the 1968 Vocational Education Act.

The needs of Limited English Proficient (LEP) students were addressed in 1974, and in the 1980s, a focus on school-to-work initiatives was present in school districts across the country. States began to increase their graduation requirements and to focus on professional development for teachers. Future support for vocational education would have to wait until the passage of the 1998 Perkins Act.

*Perkins Act*

The Carl D. Perkins Act defined vocational technical education as an organized educational program that offers sequences of courses directly related to preparing
students for employment in current or emerging jobs that do not require a baccalaureate or advanced degree. President Clinton signed the Carl D. Perkins Vocational and Technical Education Act in 1998 and the purpose was to prepare students successfully for work. As a part of the broader devolution, this legislation gave states more flexibility in spending their Perkins funds while increasing accountability.

Consistent accountability was a feature of the Perkins Act in both 1998 and 2006. The 2006 reauthorization of the Perkins Act required local programs to set specific performance targets, identify performance indicators, and assume responsibility for meeting set targets (Hyslop, 2008). In addition, the 2006 Act required technical schools to address the integration of academic skills into the CTE programs by requiring collaboration between CTE teachers and academic teachers.

The Carl D. Perkins Vocational and Technical Education Act is the main source of funding to states for CTE programs. According to the US Department of Education’s report to Congress on the Carl D. Perkins Vocational and Technical Education Act of 1998 for the program year 2006-2007, the number of students enrolled in CTE programs was at its highest level as compared with the last 8 years.

In summary, “The field of career and technical education in the United States has evolved over the past 100 years to serve a variety of populations” (Martinez, 2007, p. 72). “From the initial Smith-Hughes Act of 1917 that funded vocational education to the Carl D. Perkins Acts of recent times, one trend is clear: career and technical education is becoming more expansive and more inclusive” (Martinez, 2007, p. 72). Meeting the demands of the economy by utilizing individuals’ abilities is a crucial objective of career and technical education.
Types of CTE Delivery in the United States

Career and Technical Education today is evolving to meet the diverse needs of all students. The vision of the Perkins Act of 2006 is that all students will gain 21st century skills and knowledge to survive and thrive in emerging professions. Perkins IV identifies 16 career clusters that prepare students for success. These clusters have career pathways that outline what students need to be able to do to succeed in their field. The career clusters are Agriculture, Food, and Natural Resources; Architecture and Construction; Arts; Arts, Audio Visual, and Communications; Business, Management, and Administration; Education and Training; Finance; Government and Public Administration; Health Science; Hospitality and Tourism; Human Services; Information Technology; Law, Public Safety, Corrections, and Security; Manufacturing; Marketing, Sales, and Service; Science, Technology, Engineering, and Mathematics; and Transportation, Distribution, and Logistics.

CTE is delivered in a variety of ways throughout the United States. For example, in Alabama, it is a requirement that CTE courses be integrated into the high school curriculum. In West Virginia, CTE is provided for students in comprehensive high schools. The schools are specialized centers, some of which train students who are deaf, or blind, or have other disabilities. An example of one of these centers is a retail-training store that is located in a mall to provide real job opportunities for students.

In Missouri, new requirements for graduation will be implemented for all high school students graduating in 2010 and after. These students will be required to choose either a CTE course or another course analogous in content to a CTE course. Missouri calls this requirement practical arts. Throughout the United States, school districts and
educational leaders are focusing on helping students develop 21st century skills in order to make successful transitions into the workplace. “Educators in the 21st century realize that students entering the classroom today are much different from those who have come before them” (Hayes-Jacobs, 2010).

“The most comprehensive model of education reform designed to promote academic and career maturity and specific skills is the career academy” (Gray, 2006). There are approximately 2,500 of these career academies that exist in the United States. Career academies provide a unique opportunity for students to focus on one career area. Typically, academies are found in large districts and/or in urban schools.

Many teachers need to update their curriculum to reflect the needs of 21st century learners. For example, Heidi Hayes Jacobs discusses in her book Curriculum 21, how educators should begin to focus on the exploring and developing of future career options with students, the incorporating of more technology and media into the curriculum and thoughtful consideration of the whole child’s academic, mental, physical, and emotional development.

Career and Technical Education Student Success in the United States

Research shows that students who are more engaged in school are less likely to drop out of school, which, in turn, expands the possibility of post-secondary education (Kotamraju, 2007). Typically, students who are successful have a transition plan for their continued success in high school and after graduation. For example, part of this plan could be in the form of a teacher mentor who continues to meet regularly with students and monitors their progress while providing support and guidance. Additionally, students’ behaviors and attitudes toward school can change when they feel that they are a
part of the school community. A sense of belonging increases the likelihood that students will accept school rules and policy. Some indicators of students’ sense of belonging are decreased absentee rate, increased participation in school activities, decreased truancy, fewer discipline issues, and involved parents.

**CTE Delivery in New York State**

The main way delivery of CTE programming is performed in New York State is through the Boards of Cooperative Educational Services (BOCES). Created in 1948, BOCES were authorized by the New York State Legislature to enable smaller school districts in a geographic area to share planning, services, and programs, thus, providing educational and support activities more economically, efficiently, and equitably. In 1955, legislation was passed allowing BOCES to offer vocational and special education. Today, Orleans/Niagara BOCES provides programs and services to 40,000 students in 13 school districts.

In addition to educating students for entry-level positions, BOCES also works to prepare young people for post-secondary education and training. Orleans/Niagara BOCES is the 15th largest out of 37 BOCES in New York State and ranks third for the largest career and technical education enrollment in the state. Between the two career and technical education centers at Orleans/Niagara BOCES, approximately 1,550 students receive advanced training and certifications each year.

New York State’s CTE delivery is made up of more than 1,100 CTE service providers who educate more than one million students in school districts and BOCES. Career and Technical Education professionals in New York are committed to providing a
high quality education and offering opportunities for all students. They are organized into the following areas in New York State:

- Agricultural Education
- Business and Marketing Education
- Family and Consumer Sciences Education
- Health Occupations Education
- Technology Education
- Trade, Technical, and Industrial Education

Statement of the Problem

At this time, the literature does not address CTE students’ perceptions about their own academic success. Typically, educational decisions are not made by listening to student input. Features of CTE that help students succeed have not been often studied or explored. There was a need to identify a theory that explains the specific relationships and other elements of CTE that help students graduate and find gainful employment or attend college.

The low graduation rate from high schools in the United States demands that educational leaders change their way of thinking and their way of teaching. Many students do not find high school relevant and make unhealthy choices including alcohol and drug use and unsafe sex as, well as live in poverty after they drop out of high school.

Perkins IV identified six areas to measure student performance: academic achievement in reading and math, technical skills, graduation rate, secondary school completion, student placement, and participation and completion of nontraditional CTE programs. For example, Perkins IV encourages CTE schools to increase the number of
female students who complete an auto mechanics program. Data on all six areas listed above were required for the 2009-2010 school year. This could have a significant impact, as states will face financial penalties if they did not meet at least 90% of the targets as directed by the Perkins grant in these areas.

Career and Technical Education programs have had a stigma attached to them for some time. The lack of current research could contribute to the fact that CTE programs have a bad image and the reputation that its programs are only for the most at-risk students. Image problems have plagued the CTE community for years due to the perception that it provided poor quality education for the most at-risk students (Gaunt and Palmer, 2005). Current research indicates that there is still a stigma associated with CTE programs, but attitudes toward the programs have progressed significantly since 1991.

As a result, the development of this theory that addresses why more students are successful and graduate when enrolled in a CTE program compared with traditional high school programs will help to change the image of CTE. Research that focuses on the voices of students will not only advance this theory, but will help to alter these false perceptions and better reflect a current reality.

*Purpose of the Study*

The purpose of this study was to understand what features of CTE students identified as contributors to their academic success and/or increase their likelihood of graduation. Specifically, the researcher attempted to investigate students’ perceptions about what ultimately led to their success when enrolled in a CTE program and to aggregate these perceptions as “features” of the CTE program.
The context for this study was the Orleans/Niagara BOCES, specifically the Orleans Career and Technical Education Center, located in Medina, NY. The Orleans/Niagara BOCES provides services to 13 school districts in Orleans and Niagara Counties. Students spend half of their school day at BOCES during their junior and senior years. The research participants were students at the BOCES career and technical education center in Medina, NY. There were 12 senior students who were on a Regents or Advanced Regents diploma track, which identified them as successful students from Cosmetology, Food Service, and Auto Mechanics. Four students were interviewed from each program, which had approximately 20 students, for a total of 12 research participants which included six males and six females.

Interviews were recorded by using a digital recorder and were transcribed by a professional service. These interviews were designed to answer the research question below.

Research Question

What organizational features of CTE do successful students believe contribute or detract from their academic achievement and graduation and why?

Significance of the Study

The creation of a theory about what organizational features of CTE programs that successful students believe contributed or detracted from their academic achievement and graduation will help change the way educators deliver CTE in the United States. There are very few studies that indicate what features affect or detract from students’ success when enrolled in CTE programs. The data collected in this study suggests some features that do work. The interview questions elicited responses from students that helped in the
development of a theory and gave permission to students to speak freely and provide information about the programs based on their personal experiences.

These student voices will help to improve current CTE programs and also enhance the comprehensive high school experience. This theory will also improve recruitment procedures and hiring practices for CTE teachers. Other BOCES and CTE programs will benefit from this research.

The global economy demands a shift in the way educational leaders think about education. Career and Technical Education will play an integral part in helping our country get back on its feet (Melott, 2009). Ed Melott, the current Association for Career and Technical Education president, states in the September 2009 Techniques issue, “we must seek to inform others about the vital role that CTE plays in fostering workforce and economic development.” He believes that as the nation continues its economic recovery, CTE professionals and programming will be heavily relied upon to continue to provide hands-on learning necessary for student and worker success.

The unemployment rate is discouraging and could have an impact on the number of young people who will attend CTE programs to learn a trade. This study could also have an impact on high school graduation rates in the United States. If more students are enrolled in CTE programs as a result of hearing the perception of their peers and finding more relevance in high school, more students may graduate and not drop out.

On November 5, 2009, there was a forum discussion led by the New York State Education Department to discuss the CTE Future Directions Initiative document. This document is an action plan for NYS secondary and postsecondary CTE. The CTE Future Directives Initiative focuses on four student-centered priority areas that target integrated
academics, flexibility in meeting graduation requirements, recognition of CTE achievement, and the linkages between learner levels. It also focused on system-focused priorities, including transitioning to the student information repository system and meeting the need for qualified CTE teachers by changing the CTE teacher preparation and certification. The lack of literature surrounding students’ perceptions about their own success or failure when enrolled in CTE programs clearly indicated a need for further research.

**Definition of Terms**

*Career and Technical Education (CTE):* The Association for Career and Technical Education defines CTE as “a broad system that encompasses a variety of challenging fields in diverse subject areas which are constantly evolving due to the changing global economy.” Career and Technical Education helps prepare students for jobs that are related to a specific trade. It also helps students develop the skills necessary for specific jobs, provides both school and work experiences, and ultimately attempts to bridge the gap between education and the world of work.

*Dropout:* As defined by the New York State Education Department, school principals must report students as dropouts if they complete a school year and do not re-enroll unless the student can be identified as graduated, transferred to another educational program leading to a high school equivalency diploma, left the United States, or died. These students should be counted as dropouts in the year in which they did not re-enroll. According to the New York State (NYS) Education Department, students should be counted as dropouts if, on the last day of required attendance for the school year, they have been absent for 20 consecutive, unexcused days and have not resumed attendance.
**BOCES:** The Board of Cooperative Educational Services was created in 1948 by the NYS Legislature to provide school districts with a program of shared educational values. The BOCES services are created when two or more school districts decide they have similar needs that can be met by a shared program. The BOCES helps school districts save money by providing opportunities to pool resources and share costs.

**Summary**

Students’ perceptions are not often considered when making educational change. This study explored what features of career and technical education help make students successful by interviewing 12 senior students; six males and six females about what they believed contributed to their academic achievement and graduation when enrolled in CTE programs. Chapter Two reviews the literature surrounding student voices and related topics. Chapter Three discusses the research design and methodology. Chapter Four includes the findings of the study, and Chapter Five includes limitations of the study and implications for practice.
Chapter 2: Literature Review

The review of the literature focused on students enrolled in career and technical education programs. Student perceptions are not often considered when making educational changes. This review identified features of Career and Technical Education (CTE) that successful students believe contribute to their academic achievement and graduation.

Brewer (2004) in his article *CTE in High Schools: The Formula For Success* discussed how CTE has a big impact of saving youth that even No Child Left Behind (NCLB) leaves behind. Career and Technical Education can offer academic support to students and can offer programs that incorporate qualities that give more meaning and purpose to the educational process.

Research has shown that adolescents’ school experiences are associated with various adjustment outcomes (Aro, Kiuru & Nurmi, 2008). The transition from a traditional high school to one that incorporates a career and technical component can be a key to educational change. Research showed that the skills new job entrants most need for success in the workplace are the areas in which high school graduates are least prepared (DiMartino & Castaneda, 2007). Career and technical education professionals should create and implement programs for the basis of education policies that, in turn, guide our educational practices (Martinez, 2007).
Career and Technical Education programs can hold the power to encourage students’ skills and interests while inspiring them to commit to the academic piece they need to survive and become productive citizens.

“When students are engaged in the learning process, real achievement takes place, and their chances to excel at what they do, increase” (Daggett, 2005). Increasing the rigor and relevance in schools can be a reality, and will increase students’ motivation and passion to learn.

**CTE Programs and Delivery**

Career and Technical Education is delivered in many different ways in the United States. Many private and public education systems are beginning career awareness and career exploration in earlier grades in order to help students develop 21st century skills. Career awareness can begin as early as Kindergarten and provides students with opportunities to develop positive interactions, good work habits, and personal responsibility. Career awareness typically continues until students reach Grade 6.

All districts in the United States that are receiving federal funds for career exploration activities must provide students in grades 7, 8 and 9 with career exploration opportunities. Students in these grades learn team building skills and learn to develop a strong work ethic. They also are provided with leadership opportunities and practice critical thinking as well as health and safety and information technology. The focus in these grades is also problem solving and effective conflict management and resolution.

Career exploration can take on many forms in grades 7-9. It may mean that students fill out an interest inventory and discuss the results with their school counselor and do not focus on CTE at all again until later in high school. Exploring different
careers could mean that districts pay for students to attend a CTE summer camp each summer until high school which are usually run by local CTE centers. These camps are one week sessions that allow students to pick 4 or 5 career areas to explore through the week in a small class with their peers. Schools may or may not receive federal funds for CTE depending on the needs of the district and the number of students from low income families who are attending the school.

Through their yearly strategic plans, districts may choose to make CTE a priority or may be focusing on other goals. For districts that put CTE at the top of their list, their career exploration is embedded into their curriculum at all levels. This includes interest inventories for all students, summer camp opportunities, career days at local CTE centers, and a strong focus on developing 21st century skills that employers look for today.

In contrast, career preparation that takes place in grades 10-12 allows students to enroll in a CTE program that matches their career interests and goals and to develop technical skills while learning a trade. This CTE program may look different depending on the type of delivery in each district. For example, comprehensive high school CTE programs which are typically located in urban areas, deliver the essential academic courses, but focus on CTE for all four years of high school (Scott & Sarkees-Wircenski, 2001). Half-day CTE programs are conducted at local CTE centers and the component districts pay tuition and bus students for half days during their junior and senior years. Students receive certificates for their participation in CTE and in New York State, can receive a technical endorsement if they are on track to receive a Regents diploma. A technical endorsement is a gold seal attached to the student’s Regents diploma which indicates they completed work beyond the required Regents courses. To be eligible,
students must earn a Regents diploma, complete at least two years of a CTE program and pass a national certification test in their CTE program. Students in other programs may also take other exams. For example, in Cosmetology in NYS, students must complete 1000 hours of work in their CTE program and pass a state board licensing exam in order to be qualified for employment as a cosmetologist.

CTE in the United States has become more rigorous in recent years and allows more opportunities for students to succeed. Many CTE centers have articulation agreements with local colleges and can earn college credits while attending their CTE programs. Tuition for these college courses is at a reduced rate and allows the instructors to grant college credits to students who complete college level work while in high school. The literature indicates that common themes emerge about students’ participation in CTE including increased confidence, parental support for participation in CTE, levels of student motivation, and post-graduation goals and plans (Jackson, 2002 p. 3).
Academic Integration into CTE Programs

“Federal law mandates that CTE programs forge stronger academic and technical ties” (Education Update, 2009 p.3) To ensure that this collaboration exists, many districts are providing professional development for their academic teachers and CTE teachers who may be working together for the first time in hopes of creating working relationships. One example is The Math-in-CTE program which has been used in many states to train teachers and brings CTE teachers and math teachers together 10 times during the school year for professional development. Teachers learn strategies to incorporate math into their CTE curriculum.

Castellano, Stringfield and Stone (2003), in their article, Secondary Career and Technical Education and Comprehensive School Reform: Implications for Research and Practice, suggested several ways to link CTE with high school reform which aligns with the federal mandate. These suggestions included affording CTE and academic teachers time to collaborate, providing joint professional development with CTE and academic teachers, and seeking out opportunities with district offices to conduct open evaluations and research on what needs to be implemented. These implications for practice suggested by Castellano, et al. may help bridge the gap between CTE and traditional high school structure, thus, helping more students succeed.

Many CTE programs have organizations that students can join or apply for membership. The literature shows that involvement in these clubs can increase students’ confidence, motivation, and achievement. Some examples are the National Technical Honor Society, SkillsUSA, and Student Council. These Career and Technical Student Organizations (CTSOs) can provide leadership, professional development, competitions,
and community service (Alfeld, Hansen, Aragon, & Stone, 2006). Some students even reported that CTE encourages a focus on post-secondary education (Jackson, 2002, P. 6).

*Academic Integration into CTE Programs in NYS*

The New York State Board of Regents developed a policy in 2001 that gave BOCES and local school districts the power to create programs that incorporated academic content into the CTE classroom which helped students meet higher state standards. These higher standards also included the requirement to pass five Regents exams to graduate. Along with the state initiative, New York State United Teachers (NYSUT) has formed a High School Initiatives Task Force. This task force examined the issues that affect high school graduation rates and the importance of alternative programs such as career and technical education. One goal of the task force was to help raise awareness about the success of BOCES career and technical education programs. The BOCES students typically split their school day between their BOCES program and academic classes at their home district. As reported by the New York State (NYS) Education Department, the graduation rate for students in BOCES career and technical education programs in 2005 was 91%, compared with 66% for non-CTE students. The New York State Education Department reports that, among the graduates of 2005, CTE students outscored the general student population on English, math, and science Regents exams, according to the New York State Education Department.

*Review of Outcome Studies on CTE*

Current, peer-reviewed articles and literature from journals focusing on career and technical education were used as criteria when searching for information on methodological studies for this paper. The following studies attempted to identify the
features that may lead to successful students’ academic achievement and graduation when enrolled in CTE programs.

*Academic Integration Studies*

Academic integration into CTE programs is federally mandated and also continues to be a goal of the Perkins grant. CTE leaders must closely monitor the way their academic teachers are meeting this goal and academic data must be reported each year when applying for Perkins grant funding.

Parr, Edwards and Leising (2006) conducted a study that evaluated math competencies of groups of high school students. Thirty-seven CTE teachers who taught agricultural science and 447 students participated. Teachers were randomly divided into two groups. One group of 18 instructors, the experimental group, taught the math-enhanced curriculum. The other group of 17 teachers, who made up the control group, taught traditional lessons.

The experimental group participated in an in-service training that lasted 5 days where they were engaged in team-building exercises with their team teachers and were able to develop lessons and receive constructive feedback about the quality of each lesson. They also received training to learn an instructional approach for lesson delivery.

Both groups taught their lessons for a semester. The experimental group of agricultural teachers met on a regular basis with their math teacher colleagues, debriefed after their lessons, and received tips on how to improve future lessons.

At the end of the semester, students were tested on their math skills. The students who were taught by the experimental group of teachers scored much higher than their peers who were taught by the control group. The results of this study were significant
because standardized tests are a reality for students today. The CTE teachers did not have to make big changes in their curriculum, but instead, they just enhanced the math concepts that already were present in their lessons.

Math teachers were excited to work with CTE teachers and CTE teachers reported feeling empowered and valued by their colleagues. An atmosphere of trust and respect among the teachers was evident throughout the semester during which they worked collaboratively.

It is evident that collaboration between CTE teachers and academic teachers can add to student success. Through collaboration and by making small changes in their instruction and curriculum, teachers made a direct impact on student learning and achievement. This study provided a good model for other CTE programs to follow when focusing on academic integration at their centers.

*Comprehensive School Reform Studies*

Throughout the last ten years, more accountability has been placed on CTE programs in terms of authorizing federal funding. CTE programs are measured on students’ academic success as well as on performance tests. The following study looks at Comprehensive School Reform (CSR) as a way to bridge the gap between academic departments and CTE. Castellano, et al. (2003) grouped elements of successful high school reform into three categories:

1. Structural reform supports, including career exploration beginning in middle school, career academies that focus on broad career clusters, and partnerships with businesses

2. Increasing capacity for reform supports by forming interdisciplinary teacher
team with planning times, work-based job shadowing opportunities, and focused professional development

3. Pedagogical reform support that includes project-based learning; frequent, relevant performance assessment; and technology integrated into the classrooms with teacher support

The authors noted some important implications for practice including collaboration across departments, providing joint academic and CTE professional development, and incorporating more career exploration opportunities into secondary schools.

The researchers also found that CTE and CSR in high schools are understudied. Practitioners should look at CTE as a way to prepare our youth for the society they will inherit and the economy they will direct (Castellano et al., 2003).

Career academies are becoming more prevalent in the United States and their comprehensive model of educational reform may benefit students. Although there is not current research delineating if academies have reduced the drop-out rate among high school students, there is an effort to provide smaller learning environments for students to increase career awareness and preparation with the intent of supporting student success.

**Longitudinal Studies on CTE**

Longitudinal studies can make observing change more accurate than some other types of studies. These studies observe the same people for a long period of time and therefore the differences among the participants are less likely to be the result of cultural difference. The National Education Longitudinal Study of 1988 (NELS: 88) was a two-stage, stratified random study from a sample of 25,000 eighth graders. This included
more than 1,000 schools in 1988. The researchers then resurveyed the students every two years through 1994. In addition, they collected survey responses from administrators, parents, and teachers (Plank, 2002). The results of this study indicated that CTE appears to have a positive effect on test scores and the likelihood of student graduation. Specifically, students who had a ratio of three CTE credits to every four academic credits had a reduced chance of dropping out of school (Plank, 2002).

Stone and Aliaga (2005) conducted a study of students who attended ninth grade or higher by asking them questions about their participation in school programs including career and technical education. In their study, CTE meant the curricular programs students are enrolled in while in high school in addition to a set of strategies that prepares students for the workforce. The researchers looked at what direct effects social factors had on CTE and school-to-work activities and how they influenced graduation, academic achievement, and post-secondary goals. Two types of statistical tests were used for this study including cross tabulations and linear regression analyses.

Alfeld, et al. (2006) looked at Career and Technical Service Organizations (CTSO) as affecting achievement, employability, and transition to post-secondary education. The design was a cross sectional, four groups pre and post test for one year. Surveys were given to these students in the fall of 2004 and the spring of 2005. Each group was asked identical questions. There was a 72% retention rate as 1,797 of the 2,485 students who took the survey in the fall of 2004 took it again in the spring of 2005. Gender, race, ethnicity, and grade in school were controlled. The sample was mostly high school juniors and seniors. Students who were involved in a CTSO appeared to be higher in academic engagement and motivation, civic engagement, employability skills, and
career self-efficacy. Possible limitations to this study included the fact that teachers were not blind to the purpose of it, and the sample consisted of mostly white students. Overall, the research indicated that participation in a CTSO had beneficial effects on students.

In another longitudinal study conducted by Salmela-Aro, Kiuru, and Nurmi (2008), 658 ninth graders were asked to fill out questionnaires twice during their last semester of a comprehensive school and one after the transition to post-comprehensive. Students provided information on their gender, school burnout, and academic achievement. The researchers analyzed the data by latent growth curve modeling.

Their results indicated that students who were on an academic track experienced more exhaustion at school than those on a vocational track. Results showed that girls felt more school burnout than boys did in both tracks. Students who had higher levels of academic achievement experienced a lower level of burnout than those who had lower levels of achievement. Longitudinal studies allow the researcher to distinguish short from long term occurrence such as poverty and can be a powerful tool.

**Quantitative Studies on CTE**

Pike (2006) conducted a study where participants were college freshmen who completed a college student expectations questionnaire, and 543 students participated in the study. Students’ scores were calculated using analysis of covariance. The results indicated that gender is related to college expectations. Females had lower expectations than their male peers about being involved in math and science but had higher expectations about being involved in clubs and organizations.

This study indicated a gap in identifying students’ interests and personality while in middle school and high school in order to prepare them for the right career path. Once
students are placed on the right academic track, they can begin job shadowing at an earlier age and participate in career and technical education programs.

Evans and Burck (1992) conducted a meta-analysis on 67 studies. They were researching whether or not career education had an impact on academic achievement. The population for the study included literature that discussed career exploration beginning at the 1st grade level and extending until 12th grade. Their procedure was to locate studies, code them and then quantify the outcomes.

This study resulted in a positive effect on student achievement although it was a relatively small effect when career education interventions were made. The overall average magnitude effect was .16 as reported by Evans and Burck (1992) and indicated the value of CTE to increase academic success as it was supported by the result of this meta-analysis.

Mixed Method Studies on CTE

Boatright and Slate (2000) used a mixed methods approach to research the work ethic of vocational students in Georgia. Three hundred seven people from 33 technical institutes in Georgia participated in this study that included two focus groups and a needs assessment. The participants then completed a Likert survey.

For this study, work ethic was defined by the researchers as “a positive attitude toward work.” Females in this study reported a stronger work ethic than males and participants with one to five years of work experience had a stronger work ethic than those who had more experience.

This study validated the importance of job shadowing and experience for students enrolled in CTE programs. The participants’ perception about work ethic was a function
of exposure according to this study which again demonstrates the need to provide actual job opportunities for CTE students.

Rojewski et. al (2008) completed an analysis of the trends, needs and issues surrounding CTE using quantitative methods three fourths of the time and qualitative the remainder of the time. The researchers reviewed articles published about CTE over a three year period and sorted them into five categories which included accountability, articulation and transition, career pathways, integration of academic subjects into CTE, and retention and recruitment of CTE professionals. Their purpose was to identify current trends in CTE.

Consistently examining the trends of CTE allows professionals to make adjustments to their programs, provide professional development to others and to help make necessary changes and /or improvements to CTE. Identifying trends and needs is important when encouraging students to voice their opinions, concerns affecting their current CTE program. Additional trends or themes may emerge when interviewing individual CTE students.

*Student Perception Studies on CTE*

In 1991, Rosetti completed research on two Ohio studies that focused on why students chose not to enter a CTE program. She found that 12.3% of students planned to go to college and get a good education while 12.09% of students had a poor image of vocational programs, 9.22% believed that vocational education does not meet college requirements, and 7.17% had a poor image of vocational education students. Rosetti also found that 8.2% of students believed that vocational education did not offer what they were interested in, 7.27% said it limited their choices, and 3.69% said that vocational
classes were too easy and not challenging. Other results of her study indicated that 6.76% of students did not want to leave their friends, 5.12% did not want to change schools, 4.61% just did not want to go, and less than 1% said their friends did not go to a vocational school. Further results showed that 4% of parents advised in favor of students enrolling in vocational classes, and 2% planned on taking vocational classes at school.

When interviewed with open-ended questions, these students indicated that they were influenced by others when choosing their high school curriculum. Students’ friends had the most influence followed by their parents. Students also discussed their negative perceptions surrounding CTE programs.

There was a steady decline in CTE program enrollment in Ohio since 1979. This study was likely useful for educational leaders, but unfortunately, there has not been a comprehensive study like this one conducted since 1991. In this particular study, 613 students completed a questionnaire from five component school districts. The sample breakdown of students was 51% male and 49% female.

Jones, Womble, and Searcy (1997) conducted a study to assess students’ perceptions toward technical and industrial classes (T & I). Their objectives included describing perceptions of students in urban schools toward T & I classes, identifying what underlying themes contribute to the perceptions of the above-mentioned students, and looking at the variables that affect student perceptions of T & I classes.

The population for this study comprised students enrolled in a large, urban school district who were enrolled in T & I classes. A sampling of four urban high schools was done to ensure that a variety of programs was represented. Of the 284 questionnaires that
were distributed, 232 were returned. Students were given the questionnaires by their teachers in their T & I classes; 53.7% were male and 46.3% were female students.

Data was analyzed by descriptive and inferential statistics. Factor analysis helped identify the statements that measured student perceptions.

Data indicated that students who were taking T & I courses had career plans and valued their programs. Students did not believe that their programs sufficiently prepared them with the communication and math skills needed for the workplace. This evidence makes a case for adding more integrated academics in CTE classes as well as adding more team building and communication skills to the curriculum.

Overall, students had a positive perception of the value of CTE. However, they did not feel prepared to work and relate with people from different cultural and ethnic backgrounds and perceived a need for more multicultural training. Students in this study also perceived the need to be ready for future employment opportunities. This study clearly provided ideas for improving CTE by examining the characteristics and the perceptions of students currently enrolled in T & I classes.

In another student perception study, Catherine Usoff (1998) surveyed 270 students who were attending graduate and undergraduate accounting programs. The researcher wanted to determine what students’ perceptions were of technical and non-technical accounting skills. The sample of students was split evenly between males and females. Students believed the most important skills were accounting knowledge, professionalism, logical reasoning, and problem solving. Other non-technical skills had lower ratings, including oral and written communication, leadership, and working well
with others. The students in this study did not feel strongly that non-technical skills were most important to their career. They were more focused on their technical knowledge.

The results of this study indicated that students perceive technical skills to be more important than non-technical skills. This is important because many employers place value on non-technical skills. Educators in CTE programs should focus on both types of skills as they prepare students for the workplace and/or higher education.

Gaunt and Palmer (2005) conducted a study at the Wexford Missaukee Area Technical Education Center (WMACTC) in Cadillac, Michigan. Students at this center came from seven districts and are involved in one of 13 programs offered. The researchers conducted a survey of all seniors which included both those enrolled in CTE programs and those students who were not taking a CTE course. “451 seniors responded to the survey and 126 were enrolled in a CTE program while 325 were not” (Gaunt and Palmer, 2005).

Students who participated in this study were asked the following questions:

- What are your overall perceptions of CTE, and whom do you believe is best served by career and technical education?
- Who are the people who most influence you as you consider curricular alternatives?
- Are there any factors that influence your decision making regarding CTE?

The survey given to students was developed to gather their perceptions about the CTE center and to collect data about what other factors influenced their decision to attend the center. The results are shown in Table 2.1.
Eighty percent of these high school seniors surveyed believed that CTE programs were for students with all abilities. More than 50% of the students who did not attend CTE programs believed that the programs were for students who wanted to attend college. Since CTE programs have traditionally had a negative stigma associated with them, such positive perceptions of the CTE program reflected in this study are noteworthy. The accumulation and reporting of similar research would do much to repair the negative image of such programs.

**Summary**

There are many challenges for states in terms of realizing the contributions of CTE to change. The high schools’ structure and their school accountability systems need to change from a traditional model to one that aims to prepare students for their careers. Key stakeholders, including boards of education, legislators, and school districts, would have to work collaboratively to update their programs to include a more flexible, individualized approach. It is hard to imagine that these changes would not lead to increased graduation rates.
“Explicit attempts to combine CTE with a solid academic grounding have become increasingly common” (Plank, 2001, p. 281). These attempts are not without challenge. One goal of these programs is to keep students’ options open after high school. If preparation in core academic areas can be combined with a strong foundation in work skills and applications, the hope is that upon high school graduation, students will have more attractive options in many areas, including college and employment (Plank, 2002).

CTE opportunities have been increased by Federal legislation, but traditional high schools are still resistant to change (Stone & Aliaga, 2005). Tuition cost is one of the many reasons more students are not involved in CTE programs, which can be a concern for districts, especially with current economic trends. Furthermore, some school counselors may feel that enrolling students in CTE programs takes away job opportunities from academic teachers in the home districts. Typically, counselors who are solely responsible for student scheduling are also members of the teachers’ unions, which are concerned about job cuts.

For too long, many school districts have ignored the value of CTE in preparing more students for success in college and a career, thus, resulting in low graduation rates. Many students fail to see how education relates to their future, and not enough students graduate from high school with the skills they need to succeed. A high-quality CTE, combined with challenging academic studies, is a key to ensuring that more students graduate from high school with a post-secondary plan.

When asked where CTE will be in 50 years, ACTE past president, Jack Elliott, responded to an online forum in May 2009 by stating:

CTE leaders, teachers, and premier educational delivery system of relevance,
relationships, and rigor. These products of the system include students who are ready for postsecondary education as well as careers that we can’t even imagine. The high unemployment rate and dropout rate for high school students suggested a need for change in focus from academic to CTE (Pike, 2006).

The review of the literature indicated that CTE tends to have a positive effect on high school students and may lead to their success in their academic courses and increase in graduation rates. In particular, the literature clearly indicated that CTE when taught collaboratively and when taught in an integrated fashion will facilitate success.
Chapter 3: Methodology

This qualitative study identified a theory about what career and technical education (CTE) high school seniors believe are the critical features of CTE that contributed to their own academic success and graduation. Data collection and analysis used grounded theory study methods. This chapter will discuss the research context, participants, instruments, data collection, and procedures used.

An interview protocol guided participants through defining their experiences in CTE programs as well as their perceptions and individual understandings about how they reached their own success. Interviews were semi-structured. The questions focused on the social process of CTE programs, including peer support, mentorship, teacher and student relationships, team building, shared value success, and belonging to a community.

Qualitative Inquiry

“There are many reasons for choosing to do qualitative research, but the most important is the desire to step beyond the unknown and enter into the world of participants, to see the world from their perspective and in doing so make discoveries that will contribute to the development of empirical knowledge” (Corbin & Strauss, 2008). This is especially true for this study as students’ perceptions were examined and further explored to explain what features lead to their academic achievement and graduation.

Qualitative research allows researchers to determine how meanings are formed through and in cultures and to hear about the inner experiences of participants (Corbin and Strauss, 2008). Qualitative research also gives researchers a way to focus on
individual meaning through inquiry. This process involves questions, procedures, and data analysis where the researcher makes interpretations about the meaning of the data.

“A qualitative researcher should be curious, creative, and not afraid to trust his or her instincts” (Corbin & Strauss, 2008). This research method was good fit for this study as the voices of students are oftentimes not considered when professionals make educational decisions.

_Grounded Theory_

Grounded theory is a qualitative design in which the researcher develops a theory of a process shaped by the views of research participants (Creswell, 2007). This study was appropriate for grounded theory the data from student interviews was used to explain what features of CTE contributed to their success and as a result, an emerging theory developed.

A grounded theory study allows the researcher to collect data about the inner experiences of the participants. Individual interviews were chosen for this study so students’ perceptions about what features help contribute to their success were not contaminated by the perceptions of their peers as might be a risk in a focus group. However, one focus group with all the participants took place after completion of the interviews to conduct member checking.

_Research Context_

The context for this study was the Orleans/Niagara BOCES, specifically, the Orleans Career and Technical Education Center, located in Medina, NY. The Orleans/Niagara BOCES provides services to 13 school districts: Albion, Barker, Lewiston Porter, Lockport, Lyndonville, Medina, Newfane, Niagara Falls, Niagara
Wheatfield, North Tonawanda, Royalton Hartland, Starpoint, and Wilson Central Schools. Created in 1948, BOCES was authorized by the New York State Legislature to enable smaller school districts in a geographic area to share in planning, services, and programs, thus, providing educational and support activities more economically, efficiently, and equitably. In 1955, legislation was passed allowing BOCES to offer vocational and special education. Orleans/Niagara BOCES provides programs and services to 40,000 students in 13 school districts.

There are 37 BOCES organizations in New York State. Orleans/Niagara BOCES is the 15th largest by student count, but it ranks third for the largest career and technical education enrollment. Students and customers are provided with a wide array of courses, programs, and services that enable them to achieve academic, career, and life goals. For example, the three most requested CTE programs are Auto Mechanics, Cosmetology, and Food Service.

The New York State Board of Regents developed a policy in 2001 that gave BOCES and local school districts the power to create programs that incorporate academic content into the vocational classroom. This policy helps students to meet higher state standards. These higher standards include the requirement to pass five Regents exams to graduate. NYSUT has formed a High School Initiatives Task Force which examined the issues that affect high school graduation rates and the importance of alternative programs such as career and technical education. One goal of the task force was to help raise awareness about the success of the BOCES career and technical education programs.

The BOCES students typically split their school day between their BOCES program and academic classes at their home district. As reported by the New York State
(NYS) Education Department, the graduation rate for students in BOCES career and technical education programs in 2005 was 91%, compared with 66% for non-CTE students. Among the graduates of 2005, CTE students outscored the general student population on English, math and science Regents exams, according to the NYS Education Department.

Research Participants

Purposeful sampling is a qualitative research strategy that involves the process of choosing individuals and sites for study because they can inform and contribute to a greater understanding of the research problem (Creswell, 2007). Participants were chosen using purposeful sampling, and gaining access to the site was accomplished by seeking permission from the Orleans/Niagara BOCES, the district superintendent, and the Institutional Review Board (IRB) at St. John Fisher College.

The research participants for this study were students at the Orleans Career and Technical Education Center in Medina, NY. They were senior students at least 18 years of age; male and female who were on a Regents or Advanced Regents diploma track from Cosmetology, Food Service, and Auto Mechanics. Interviews continued until saturation occurred. The total number was 12 students. Students were interviewed from each program for a total of 12 research participants. The school social worker at the Orleans Career and Technical Education Center assisted in the sampling of students from each program.

Interviews were recorded by using a digital recorder. The limited number of participants was due to the lengthy transcript that each interview produced.
Other Information

Students were asked to give consent for the investigator to view their school files located at the Medina Career and Technical Education Center.

Instrument Used in Data Collection

Grounded theory is often developed through the process of making observations and is consistently revised (Patten, 2007). A variety of data collection methods is appropriate for use in grounded theory studies, including interviews, observation, and document analysis (Creswell, 2007).

Interviewing goes beyond the everyday, spontaneous exchange of views in conversations and becomes a careful listening experience with the purpose of acquiring knowledge (Kvale and Brinkmann, 2009). The focus of inquiry in this study was related to students’ perceptions about what they believed led to their academic success and graduation based on the basis of their experience and enrollment in CTE programs. When doing one-on-one interviewing, the researcher needs participants who are not afraid to share ideas and should provide a comfortable environment for participants to talk openly (Creswell, 2007). Questions for the interviews in this study were developed in such a way to allow participants to share their experiences and perceptions. Even though the interview process in grounded theory is open-ended, interviews were semi-structured.

The following questions were asked:

- What has your CTE program been like for you? Why?
- What are the positive things about CTE? Why?
- What are the negative aspects? Why?
- What contributes to your success here? Why?
• What contributes to your failure? Why?

• Has your attendance improved since attending a CTE program? How about your grades? Why?

• Have you had more or less discipline issues since attending your CTE program? Why?

• Think about your program and experience here. How would you improve the CTE program if you could design it differently? Why?

**Procedures Used**

Participants for the study were purposefully selected and all were on a Regents or Advanced Regents diploma track from Auto Mechanics, Cosmetology, and Food Service programs at the Orleans/Niagara BOCES Orleans Career and Technical Education Center. Four students who were at least 18 years of age from each program were interviewed. Participants signed an informed consent form. Interviews took place during the students’ regularly scheduled CTE program in a private conference room at the Orleans CTE Center. Participants have a right to have the data collected about them as individuals kept confidential (Patten, 2007). One focus group interview took place after individual interviews to conduct member checking regarding the developed grounded theory. “Focus groups are advantageous when the interaction among interviewees will likely yield the best information, when interviewees are similar and cooperative with each other and when time to collect information is limited” (Creswell, 2007).

The information collected from this study maintained the confidentiality of the participants by keeping all written and audio recordings locked securely throughout the study and after its completion. All names and any other identifying information were
removed to protect the research participants and maintain confidentiality. All research notes were destroyed 1 year after the successful dissertation defense. The only identifying information is the signed consent form completed by the participants. This study was received and approved by Saint John Fisher College Institutional Review Board (IRB) before implementation.

Data Analysis

Field notes were taken during the interviews. Memoing, a written record of analysis and more in depth and much longer than field notes, was used immediately after leaving the interviews to help process the data in the beginning. It helped to develop the theory by connecting categories. Coding for this study was done by hand without the use of a computer software program. Two core categories and three themes were developed.

The process of analyzing data involves moving deeper and deeper into understanding the data, representing the data, and interpreting it (Creswell, 2009). The data for this study was analyzed by coding. Coding involves attaching keywords to a segment of text to permit later identification of a statement (Kvale and Brinkmann, 2009).

Open coding was used by the researcher in the beginning for major categories; then, axial coding followed (Creswell, 2007). “Open coding means examining segments of the transcripts of the interviews for distinct, separate segments, such as ideas or experiences of the participants and are coded by identifying them and giving them a name (Patten, 2007).” Continued analysis of data helped bring process and context into the method. The researcher should carefully think about how much data and detail to include in order to present the conceptual theme and theory (Corbin and Strauss 2008).
The categories of open coding begin to help the researcher identify a central phenomenon (Creswell, 2007). Creswell stresses that, in open coding four factors should be considered: (1) what caused the phenomenon to occur (2) what strategies actors employed in response to it (3) what broad and specific context influenced the strategies, and (4) what consequences resulted.

Axial coding typically helps describe the causal conditions that can be identified as categories that impact the central phenomenon. Axial coding was used to compare and relate concepts and began after open coding was done and was the second step in the grounded theory data analysis approach. “In axial coding, the researcher takes the categories of open coding, identifies one as a central phenomenon and then returns to the database to determine what caused this phenomenon to occur” (Creswell, 2007). In the final stages of the grounded theory approach, researchers develop a core category which is where all main categories and sub categories belong (Patten, 2007). Grounded theory researchers attempt to identify and describe a process that leads to the relationships described during open and axial coding.

Saturation occurs in a grounded theory study when the researcher is no longer able to produce new information that supports each of the categories. Interviews continued in this study until saturation was reached and new data stopped emerging. A total of 12 students were interviewed.

To check for validity, early analysis of the interviews were reviewed with the participants to ensure that categories were accurate and that information about their perceptions and experiences were correctly recorded. This member checking took place during one focus group after completion of the interviews with seven of the participants.
Data collected during this study was analyzed by gender and by program. Triangulation was used when analyzing data. This method means that the researcher used many sources to provide evidence of an emerging theory. “Triangulation is a process that typically involves corroborating evidence from different sources to shed light on a theme or perspective.” (Creswell, 2007).

Summary of the Methodology

This chapter described the qualitative method of study that attempts to answer the following research question.

What organizational features of CTE do successful students believe contribute or detract from their academic achievement and graduation and why?

The review of the literature indicated that CTE tends to have a positive effect on high school students and may lead to success in academic courses and increase graduation rates. In addition, when these students are further engaged in CTE by way of participating in a service organization, success is also achieved. Further research can help identify more specific factors that lead to student success while enrolled in CTE programs. Student perceptions may help school officials create comprehensive programs for students in high school that integrate CTE in the curriculum.

Qualitative research can be described as taking a complicated process and trying to make it simple and understandable, especially to beginning researchers. It is the researcher’s freedom to think and the ability of the researcher to change his or her mind and to follow the trail of data to wherever it leads that helps make the qualitative research method so compelling and relevant and the process of getting there such an exciting voyage (Corbin and Strauss, 2008).
Chapter 4: Findings

The purpose of this study was to understand what features of CTE students identified as contributors to their academic success and/or increased their likelihood of graduation. Data was collected through interviews as well as one focus group and answered the following research question. What organizational features of CTE do successful students believe contribute or detract from their academic achievement and graduation and why?

An emerging theory about successful CTE students’ perceptions of the features of CTE that contribute to their academic achievement and graduation is described through core categories and themes. Each core category and theme is demonstrated through excerpts from the students’ interviews. The research participants were 12 senior CTE students from the Orleans Career and Technical Education Center in Medina, NY. They were all at least 18 years of age. Six were male and six were female. All were on track to receive a Regents or Advanced Regents diploma and all 12 participants were recruited to participate in the study by the school social worker at the Orleans Career and Technical Education Center.

The participants all attended their CTE program at this center for half of the school day during their junior and senior years of high school. The opposite half of the day, they attended their home district which was one of 13 districts in either Orleans or Niagara County.
All twelve students consented to participate in one interview and seven of the twelve participated in a focus group. Permission was also granted for the researcher to review their school files located at the CTE center in Medina, NY. Interviews were recorded by a digital recorder and participants were very comfortable sharing their experiences throughout their CTE involvement. Four students from Cosmetology were interviewed, four from Auto Mechanics and four from Food Service.

The study revealed that instead of specific organizational features, students identified values and attitudes that they perceived led to their academic achievement and success. This was different than what was expected to be revealed during the interview sessions, but is indicative of why it is critical to include student voices when making educational decisions. This study has strong implications for professional practice and educators. Specifically, it makes a case for all high schools to take a more comprehensive approach to education to include career exploration, and preparation as well as CTE courses.

_The Core Category_

The CTE students who participated in this study spoke very openly about positive outcomes of their program and also about interventions throughout their two year program that contributed to their success. These students also discussed differences at BOCES versus their district where they spent half of their day for two years as well as specific behaviors and actions that they changed as a result of a teacher intervention throughout their CTE involvement. One participant identified parental intervention as a key to her success. Students also provided information about a few minor negative perceptions about their CTE programs. The information as a whole is an excellent
opportunity for executive leaders to examine these issues more closely in order to make improvements to CTE.

Kvale and Brinkmann (2009) describe categorization as a systematic coding of a statement into given categories, allowing for quantification. A core category is often described as the main theme. Categories were developed after coding students’ responses to the interviews where they were asked questions surrounding the features of CTE that contributed to their success. The core categories described represent the broad view of the participants. By constantly comparing interview transcripts and students’ responses, three themes emerged from the core categories and included opportunities, respect and equity. Throughout this chapter, quotations are identified by each participant’s number (#) and the page where the comments appear in the transcript.

Category 1: BOCES vs. District

This category emerged as many students made reference to the differences between their home school district and attending BOCES. When asked to describe what their CTE program has been like, one participant stated:

“BOCES gives you way better opportunity for jobs than other people who didn’t go to BOCES.” (#5, p. 2)

Another participant reported: “you learn a skill at BOCES, and you have a better chance of getting a job.” (#2, p. 1)

What is important about these responses is that the students demonstrate a difference of opinion about the importance of the information and activities that occur at BOCES compared to their home school districts. In BOCES, the students are able to connect the information that they are learning with real-world activities. They see a way
to translate school learning with the ability to get a job and a career. In the home school district, it seems they do not see a connection between their instruction and a real-world application. The result is that there is a lack of interest in the home school district that disappears when they are at BOCES.

It is noted that “21st century skills are not soft skills, but important qualities that may contribute more directly to student success in future education, life and careers than many academic skills do” (Coughlin, 2010, p. 51) Students can most effectively develop these skills described above by participants by rich, authentic assessments that resemble the work that professionals in their field are required to perform.

Another difference between BOCES and the students’ home district was described by another interviewee.

“If you mess up something at BOCES, they’re okay with it, so it is not like if you mess up something at regular school because you won’t have to get detention at BOCES.” “They say try it again and that it’s okay.” (#6, p. 2)

This participant also stated:

“Where I’m from, I’m down to the bottom of the pyramid and when I’m here, no one cares, everyone is equal, everyone likes each other and everyone is one type.” “I’d rather stay the whole day than go back to my school.” “When I’m in a different atmosphere with people who want to pass, I want to pass.” “At my school, I hang around with people who do stupid stuff, so it has been a good influence for me to be at BOCES.” (#6 p. 5)

Once again, the idea that seems to be present is that BOCES has an environment that is based on real-world actions and real-world responsibilities. Rather than teachers
and instructors treating students as children, they are treated as adults in BOCES. This means that they are respected with regard to being able to make decisions, as well as being able to correct mistakes with guidance from the teachers. The lack of respect the students feel in their home districts simply leads them to lack any respect for themselves or their instructors.

The student’s comments indicate anxiety about being in her home school environment. It is indisputable that a student is entitled to an education that she values all day, not just half the day. Her home school as well as BOCES, should provide a relevant and rigorous educational program. Unfortunately, her perception is that she is learning while being valued, respected, and cared about when attending her CTE program. Imagine if this CTE program was in her home school where academics were integrated providing a comprehensive education for this student. Would her feelings, attitude and motivation change about her academic experience? The sense of community that focuses on “we” rather than “I” is obviously a feature of her success.

Participant #7 described BOCES this way:

“BOCES is good for your diploma, your resume, you get work experience and you can use everything you learn here toward anything.” “It’s good for whatever you do.” (p. 2)

Yet again, this is a clear indication that students attending BOCES are able to connect the information and materials they learn to real-world situations, as opposed to their home districts in which the learning is more theoretical and may have little connection with their future career goals. From the viewpoint of helping students to succeed, especially those who may not be interested in going to college, at least not right
after high school, the CTE they receive at BOCES provides them not with an irrelevant education, but an opportunity to gain real skills and real-world decision making experience.

“When we ask whether a public education should prepare graduates to survive and thrive in the world as we know it or whether it should prepare graduates to invent and create a world greater than what we can even imagine, the answer must be a resounding yes to both” (Siegel, 2009). Educators must ensure that high school fully engages all students and gives them the skills necessary to earn a living wage and become productive citizens. Students should also value their high school diploma and the graduation requirements. If we are going to reform education, it is critical for students to earn a meaningful diploma and have opportunities throughout high school where they are exposed to a full range of options that shapes their education in a way that connects their current interests and stimulates the growth of new ones (Siegel, 2009).

_Category 2: Intervention_

The next category refers to a teacher or parent intervention that resulted in a student’s action or change in behavior with regard to their CTE program. It is important to note that CTE teachers have experience in industry before returning to school to obtain their CTE certification to become a CTE instructor. Once becoming certified teachers, they already are an expert in their trade and can share real world experience with their students. This has a significant impact on students’ achievement and their understanding of the industry as well as the teachers’ ability to give authentic feedback throughout their students’ enrollment in CTE.
“Well, I’m more of a, I take school seriously, so when I came here I took it really seriously and teachers would prepare me for like tests and stuff, so when I go back to my home school, I would study and do better…my grades are better than they were before I came to BOCES.” (#10, p. 3)

“My teacher has helped a lot by getting me to focus and stuff, she’s strict but at the same time, she’s there if you need her.” (#9, p. 2)

This caring and consistent intervention was revealed many times throughout the interview process.

“I just didn’t think hair was my thing, I didn’t like doing nails, like it didn’t interest me, but then my teacher talked to me and helped me and so now I’m glad I’m going through with it even after I graduate cause in 9th and 10th grade I was like best friends with the in-school suspension teacher at my home school cause I always walked out of school and always got in trouble all the time, but haven’t been suspended once in the last two years since I came to BOCES…my attitude and everything is better.” (#12, p. 5)

“At my home school, I had out of school suspension for two weeks in 9th grade, but since I came to cosmetology, it made me more mature cause I like to do it and I have to work with other people and stuff and my teacher helped me realize life, I guess, so I grew up and haven’t been suspended.” (#8, p. 4)

“I have learned everything I need to know for my State Boards from my teacher and she is very patient with us, but I know I need to work hard to graduate on time because my teacher reminds us of that…and I’ve grown up a lot…in 9th grade at my home school, my Gym teacher told me she hated me but now she loves
me...like all my teachers at home school tell me how much I’ve changed.” (#1, p.1)

This interviewee also reported intervention from her family and was the only participant who mentioned family support.

“My Mom pushes me and really wants me to do this because my Grandma did it and there were two other girls in our family who tried to do it, but they never finished.” “I’m going to be the first one in my family to finish because my Mom and Grandma push me.” (#1, p. 2)

The responses from the students about the intervention of the teachers at the CTE center are something that should not be ignored. Instead, the intervention on the part of teachers in the CTE programs has a direct impact on the ability of these students to be able to take the instruction seriously and to actually want to acquire more knowledge. There is a mutual respect between the students and the teachers. Because the teachers in the program show that they are willing to help the students and provide them with the support they may be missing in their home school district and within their own homes, there is a desire to respond in a positive way and to become more involved in the learning process.

Even more, the responses that were provided also return to the idea of the atmosphere that has been created within BOCES regarding how the teachers treat the students as young adults who can make decisions and improve their mistakes. Interactions are not solely based upon a teacher making a decision and the student being expected to make a specific choice or risk punishment. However, this type of relationship likely works because of the fact that the teachers at BOCES are willing to
become involved in the lives and educational goals of the students, as opposed to the level of involvement that occurs for these students from teachers in their home school districts.

In addition, the fact that only one student expressed family support is an example of the very significant role CTE teachers have played in the lives of the research participants. If asked, these teachers would probably not grasp the difference they have made in the lives of their students by affording them the common courtesies of respect, equity and opportunity.

Another example of teacher intervention is given by Participant # 3.

“The teacher really works hard to keep things up to date, so we can learn a lot of stuff.” (#3. p. 4)

The response from the student about the level of intervention and concern about the outcomes of the students in the CTE program shows that students recognize the level of involvement and concern that exists. There is recognition that teachers respect the students in the program and want to provide the most current information possible. The teachers in the program are not simply stagnant in their own knowledge because it is easy. Instead, they want the students to enter their career fields regardless of whether it is food service, auto mechanics, or cosmetology, with the knowledge that will allow them to compete with other employees and even excel because of the training and guidance they have received.

The next interviewee states:

”My teacher really helped me.” “Last year I wasn’t the student that tried to be like the student of the month type, but this year I wanted to so this past month, I
got it.” “My teacher wants you to understand, get passing grades, and go on with your life cause he makes it like his mission to do it.” (#6, p. 4)

She also stated:

“Before I came to BOCES, I was one of those kids who would only hand in a couple of homeworks here and there and just barely pass, but once I got here and once my teacher told me that attendance does count and grades do count to be able to graduate, I knew I needed to step it up and I did.” “This year I have perfect attendance and I learned more than I really thought I would, I mean Mr. D doesn’t like tell you how to do it, he like will take you in the kitchen and show you how to do it and then encourages you to try it by yourself.” (#6, p. 5)

The response from this student shows the benefits that are possible when teachers show respect toward both their students and toward the materials and information that are being taught. There is a desire on the part of the students to increase their level of work and productivity in the classroom. As the students feel more respected, and also gain a higher level of respect within themselves for what learning can do for their lives, this translates into other areas. They actually become motivated, as was the case for this student to seek out goals she might not have previously viewed as being important.

Authentic feedback that is consistent and fair was revealed throughout the interview responses. “Problem solving, information processing, working collaboratively, and knowing what to do when you are not sure are essential skills necessary to succeed in college and career as well as to manage the dynamic setting of the 21st century” (Daggett, 2010 p.13)
Themes

“The researcher analyzes the data for specific themes, aggregating information into large clusters of ideas and providing details that support the themes” (Creswell, 2007). Identifying themes is not easy, but is one of the most essential tasks of a qualitative researcher. Themes that emerged from these categories after careful analysis and constant comparison were opportunities, respect, and equity. Participants described these themes in detail in both categories.

Opportunities

Opportunities is a significant theme and it was described in detail by students and is embedded in the culture of the Orleans Career and Technical Education center. This theme encompasses the opportunity to meet people, the opportunity to advance a career, to grow as a learner and the opportunity to grow personally. For example, Participant #3 reports:

“Well, they teach us four out of the eight certificate programs and at the end of the year, you get to test and hopefully pass…I took all four, but I only got three out of four, so then next week we are going to do more to help me pass that last test.” (p. 1)

It has already been discussed how CTE programs for these students caused them to view the information and knowledge they were learning in terms of its importance and relevance in their lives. What is also demonstrated in this response is that students fully recognize the opportunities they are given in the program to turn the knowledge they acquire into a real accomplishment in the form of certifications that can get them real jobs. Even more, they are given the opportunity to pass their certification more than
once. It is not as though they have one chance to either pass or fail an exam or certification that might result in them getting a job. Instead, real opportunities are present in terms of the knowledge that is available and the ability to make mistakes and still work toward all of the certifications that can be obtained.

Student #1 stated:

“I mean they are a little strict here, but because they really want us to graduate and that’s a really good thing.” (p.4)

As it has already been discussed, the respect that is present within the CTE program is acknowledged on the part of the students and becomes part of their own thinking about the program and the goal of graduation. The students appear to internalize the respect that is present and recognize that any demands that are placed upon them are for the sake of helping them not only to graduate, but also to gain the skills and certifications that they need to earn quality jobs after graduation. In this regard, it may be that the respect that is present in the CTE program leads into the opportunities that are available, or at least the way in which the students approach the opportunities that are available to them.

SkillsUSA is a partnership of students, teachers, and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel and has a mission to help its members become world-class workers, leaders and responsible American citizens. It serves more than 300,000 students and instructors annually. Participant 10 explained:

“They really prepare you for the future, they really do with different organizations like SkillsUSA and all that, they prepare you for what you are going to have to
do….they give you more confidence…and it has helped me a lot in getting more confident in myself and my abilities in being able to go to like interviews, like job interviews.” (p. 2)

This response shows that the opportunity that is present in the CTE program is not merely the ability to graduate or to obtain career certifications. Instead, the opportunity is to gain skills that are necessary in the real-world regardless of the job or profession that is being sought. One important skill is self-confidence and the ability to be confident in the decisions that are being made. This student expresses the idea that a skill that has been gained is confidence. This is likely an opportunity that would not have existed for this student in the home school district. The student may have graduated from high school, but might not have the opportunity during school to gain confidence to seek out job interviews and to feel prepared in talking with potential employers.

Opportunities continue to emerge as a theme.

“Cosmetology has taught me like everything, like I’m really confident leaving here knowing a lot.” “You meet new people, learn a lot and it helps you with your future.” (#9, p. 1)

This student’s response reiterates the idea that one of the opportunities that is available in the CTE program is about the other skills that are necessary in life, such as confidence and networking. The program is not merely an opportunity for students to avoid traditional schoolwork for half of each school day. Instead, it is a way for them to have opportunities to gain confidence and to meet other people in specific professions that may actually be able to help them obtain jobs after graduation. These are
opportunities related to specific jobs and careers that would likely not be available without being involved with the CTE program.

“You learn a skill here and have a way better chance of getting a job…I’m in National Technical Honor Society here and am going off to college at University of Northwestern, Ohio and will study Automotive Alternative Fuels.”

(#2, p. 1)

This single comment deserves a great deal of examination and analysis because it not only provides important information about the concept of opportunities within the career and technical education program, but also the idea that students graduate from CTE programs are only destined for menial jobs. Because of the involvement with the CTE program and the experiences that it provided through the auto mechanic training, this student is attending college to not study to be a mechanic, but instead to study alternative fuels. However, it was the opportunities provided by the CTE program that created this interest in alternative fuels that has helped the student to decide to go to college. Even more, the opportunity to connect real-world issues with the education that was being provided allowed this student to understand that different types of college programs have different areas of focus. Some of the college degree programs are more heavily related to practical and applicable skills as opposed to theoretical knowledge. It seems appropriate to consider whether the home school district of this student would have provided these opportunities and generated this outcome.

“I learned like more than I ever thought I’d learn here…like it’s been a good experience for me…and I mean it’s a really good program…cause you get a good experience of what it’s like out there, so I mean if you happen to not like it, you
know now before you leave school, so you could like switch before you like make up your mind, instead of if you get to it and have to say to yourself like I did all that schooling for nothing.” (#5, p.2)

This idea that the career and technical education program provides an opportunity to try out a particular career field and to determine if the everyday tasks and responsibilities related to the field are something that a person would enjoy is also an important consideration with regard to the larger idea of opportunities. Some students might enter high school with the idea that they want to go into food service so they can cook for others. However, after being in food service, they might better understand that there are many other tasks and responsibilities that are a part of working in the food service industry. This might create a realization that another career might better match their interests. At the same time, a student that would have never thought about working on a vehicle and repairing an engine would be enjoyable might come to realize that he or she actually enjoys such work. All of this is possible simply by creating and providing students with opportunities. However these opportunities would not be possible without a career and technical education program.

Overall, the theme of opportunities as it relates to the responses provided by the students that took part in the interviews can be viewed in more than one way. First, the CTE program provides students with opportunities to gain knowledge, experience, and confidence that might not have been possible with the traditional home school district’s curriculum. At the same time, the CTE program provided these students with the opportunity to explore various areas of interest as a way for them to determine if they would want to pursue those interests as potential long-term careers. Finally the CTE
program provided these students with the ability to network with working professionals in their various areas of interest and to network with potential employers. Once again, these are opportunities that it seems unlikely that the home school district could have provided with the traditional curriculum.

Respect

Respect is valued and practiced at the Orleans Career and Technical Education Center as evidenced by the students’ perceptions.

“Everyone likes each other here, so that’s a positive thing…we like food service since we cook other people’s lunches and stuff so we interact with the other classes and other teachers in the building and it’s just the atmosphere that really is positive all the time.” (#6, p.2)

The theme of respect as it is referred in this student’s response is not just about teachers and students getting along with each other, but about the larger environment that has been created in the CTE program. There appears to be a desire on the part of the program to create an environment in which students and teachers are actually working together, but also one in which they actually want to be around each other and talk to one another. It is easy to compare this environment described by the participants to that of most traditional high schools where teachers and students are separated from each other when not in the classroom. The traditional school setting would likely not have an environment in which teachers and students interacted on friendly terms with each other on a consistent basis.

The concept of fair refers to all students getting what they need and also all students must be taught to respect and appreciate learning and behavioral differences in
one another (Sims, Nelson, Voltz, 2010). This concept was described by several participants. They indicated respect for one another and their teachers.

“So when my teacher says to go in the kitchen and like do this and do that, if I do it wrong, they tell me exactly what I did wrong and then I know what not to do again and he is patient and respects me.” (#10, p. 2)

The idea that the teachers in the CTE program treat the students as adults who are not only able to learn, but who are also able to learn from mistakes and correct those mistakes is relevant to the theme of respect. This participant feels respected by the CTE instructors because the instructors treat the students as people that should be respected. Rather than corrections being made by scolding students, or even performing a task for a student because of feeling that the student is incapable, the teachers explain what is wrong and then expect it to be corrected. However, as the student states, teachers in the CTE program are respectful when a student makes a mistake. There is not a desire to make a student feel bad or embarrassed.

“Performance assessments are authentic assessments that allow teachers to determine how well a student has learned the content of the lesson.” (Voltz, Sims, Nelson, 2010)

“You have freedom here and people trust you to go and do whatever you need to do and come back and they don’t make you have passes to get wherever you want.” (#8, p. 5)

“My teacher is knowledgeable and patient with us, like he knows how to make sense to you and he makes sure you understand it before he moves on.” (#5, p. 3)
Again, the responses from these two students show different sides of the ideas of respect as it exists within this CTE program. From the first student’s response, the theme of respect within the program appears to be about treating students as adults and expecting them to take care of themselves with regard to issues that might need to be handled during classes. The traditional school mentality of monitoring the actions of every student and trying to constantly account for where they are or where they are going is not present in this program. At the same time, the second student indicates that teachers respect their positions as teachers and mentors to the students. They want to explain the subject matter in a way that can be understood.

Also, the word “patient” has now been stated more than once in the responses provided by the students. This is important because it suggests that part of the respect for the students that the teachers demonstrate is to work with them and be patient if a concept or action is not being understood. It also shows that the students view the idea that instructors in the CTE program are patient with them in their learning process as something they respect about the instructors.

Grant and Slecker (2007), suggest that teachers use authentic assessments that allow students to engage in actions and processes that approximate real world tasks.

*Equity*

Students’ perceptions that equity exists in their program and is valued by their teachers has contributed to their academic success as reported repeatedly by participants. The theme of equity is described by the students’ responses as all students getting what they need. Equal would mean that all students are treated the same, but these students
indicate that all are treated as individuals and provided with the education, resources and individual help to succeed at their ability level.

“Everyone learns and we all learn new and different things each day, we really all learned a lot last year, but this year we all really got into it as a class and we can all really cook a lot now.” (#7, p. 1)

The issues of opportunities and respect that have been discussed thus far are important when discussing the theme of equity. This student explains quite clearly how the work that was performed in the previous years in the program has created a shared ability among the students in the Food Service class to be able to cook well. Part of the student’s statement that is so interesting is the sense that this student is not only proud of their abilities but also improved abilities of their classmates. It is though there is a shared pride in being part of a group that has worked together over the course of several months and who have moved to the point of being proficient in what they have learned.

Positive interdependence is defined as learning activities that are structured in such a way that students are required to depend on one another to successfully accomplish a task. The success of the whole group depends on the performance of each group member. This student is describing positive interdependence as well as the sense of community that leads to his increased success. More often than not, he does not use the word “I”, but instead is focused on “we”.

“Even though there a lot of people working on cars at one time, we all get a chance to learn new things.” (#2, p. 4)

“My teacher is awesome because if anyone ever needs her, she’s there, even if the troublemakers need her.” (#9, p. 3)
“Well, I wasn’t really with some skills when I got here, but we all get to learn, so that’s good.” (#11, p. 3)

“Mr. S helps us all and we can get as much help as we need and we can make our goal pretty much what we want it to be.” (#4, p. 1)

“The teachers all get to know the students and like how they learn on a personal basis instead of making everyone do it the same cause not everyone learns the same and then we all get a chance to learn skills.” (#10, p. 4)

These comments from the students create an image of a learning environment in which students are truly expected to work together and are treated equally. The teachers and instructors in the CTE program want to provide all of the students with the ability to have a strong educational experience. This seems to be the case based on the comment that even through there are many students working on a single car, they all get to learn new things. This suggests that teachers and instructors try to raise up all students as opposed to working with the students that have above average skills and performance because it is easier.

Also, the students have once again addressed the idea of the teachers interacting with the students in the CTE program on a personal level. From a standpoint of equity, this might not seem to be an important action. However, what it shows is that the teachers are interested in treating the students equally as opposed to getting to know only a few students because of having high test scores or the perception that those students will attend college. Instead, the teachers in the CTE program want to create an environment in which all students truly feel equal.
Focus Group

“A focus group is a group interview where a moderator seeks to focus the group on specific themes or research interest” (Kvale and Brinkmann, 2009 p. 324). Seven out of the twelve students were available to participate in the focus group. They confirmed what they said included that their teachers are patient, helpful, and respectful and that they learned a lot of skills that will help them with their future. Students also reported that teachers make sure everyone learns and has a chance. Also, they confirmed that it is good for them to meet people from other districts and that they got a fresh start by attending here.

All agreed that they are more confident leaving their CTE program than before attending BOCES and felt that they had more opportunities at BOCES than their peers who did not attend. Some said that their grades and attendance improved as a result of attending BOCES, and the others agreed that they stayed the same. All twelve students’ school files were reviewed at the Orleans CTE Center.

Due to time constraints and students returning to their home schools for exams, the focus group was not as effective as it could have been if the model was developed and shared with students. In addition, students were anxiously awaiting a senior field trip upon completion of the focus group which led to their brief responses and limited discussion during the focus group.

School Record Review

School records were reviewed for attendance, grades and each student’s discipline history to check the accuracy of the participants’ self-report of their attendance, grades and discipline history. After extensively reviewing all twelve files and comparing the
students’ responses with what was documented, 100% of the students reported accurate information about their grades, attendance and discipline history consistent with what was recorded in their school file. This reporting of information by the participants indicated that they understood the importance of their accuracy.

Summary of Findings

The CTE students’ perceptions of what makes them successful when enrolled in CTE programs is shown in the following model (see Figure 4.1). This model represents the components of a classroom conducive to increased academic achievement which leads to graduation. It also represents the responses given by the participants and is indicative of how important students’ feelings and perceptions have a direct impact on their success. Much of the focus in education is unfortunately on increasing assessment results with no regard for student motivations, values, and attitudes.

Themes embedded in this model which are shown in figure 4.1 are equity, respect and opportunities. The Linkages for Lifelong Success Model suggests that the equity, respect and opportunity work together to increase student achievement and graduation rates. The idea is that by creating a learning environment in which all three of these themes are present, it is possible for students to not only have a greater level of enjoyment and respect for the learning process, but to also gain a great respect for themselves and their abilities to learn and gain skills necessary for their career area.

On a larger level, these themes actually work together to influence each other. For example, creating an equitable environment in which students feel that they have the opportunity to ask questions, receive assistance from teachers, and are not ridiculed for needing help creates a sense of respect for themselves and their teachers. It is this respect
that encourages students to treat each other in an equitable manner. All of this also provides even more opportunities for receiving additional experiences in the classroom and from working professionals in their specific areas of study to come into the CTE programs and talk to them about career opportunities.

Figure 4.1. Linkages for Lifelong Success

CTE clearly represents an invaluable alternative for many high school students. This qualitative study utilizes data taken from interviews of students who attend one CTE center to better understand what student perceptions are of the CTE education they are receiving as compared to their education in their home schools. The secondary students in this study simultaneously attended both a traditional high school and school at a CTE center. Through the interviews with these students, three overreaching themes emerged. Students placed a high degree of value on:

- **Relevance** *(Connecting curriculum to a future profession with many opportunities)*
- **Opportunities and Application** *(Hands-On, Theory to Practice in an equitable manner)*
- **Respect and Equity** *(Professional treatment of students)*
1. the connection between the curriculum and a future profession with many opportunities (Relevance)
2. the hands-on approach to learning in an equitable manner (Application)
3. the professional treatment they received from their teachers (Respect)

These student perspectives can be categorized into two core areas:
1. CTE Center vs. Home School (traditional high school)
2. Intervention

By reflecting on the comments generated by the student interviews, educational leaders will be better prepared to design frequent and sustained professional development which links the CTE teachers with the teachers from a traditional high school setting into a small learning community from which they and, ultimately, the students will derive great benefits.

Although it seems simple to provide a classroom environment that fosters equity, respect and opportunity as vehicles for increasing student achievement and graduation rates, still lies in the realm of the ideal and not what actually takes place in American classrooms. “Until we transform teacher education, too many students will continue to receive a subpar education, with devastating personal and societal consequences.” “It is time for a dedicated investment at all levels to overhaul teacher education and put our country on the path toward a brighter future” (Miller, 2010).

The first core category, BOCES vs. District, helped establish the initial discovery that instruction was occurring differently in CTE programs that in traditional classrooms at the students’ home schools. For example, one participant noted:
“Well, they make you do things on your own here because like at our home school, they coddle you and in BOCES they make you do things by yourself.”

(#10, p. 2)

The discovery that was made was that BOCES had a truly different type of interaction between teachers and students. Teachers in this program were willing to ensure that students understood that they had to be the people that stood up for themselves and worked to achieve academic success. The teachers were not willing to avoid interactions with the students simply because it might be easier. Teachers were also not going to view students as incapable of performing the tasks required of them in their chosen career areas.

This category then led to the development of the second core category, *Intervention*. Student responses were significant as they explained how teachers made their instruction relevant to participants’ career interest. For example, when explaining how important attendance was, one teacher referenced the number of hours which is required to sit for the State Board exam in Cosmetology.

“My teacher told us it is important to be here because the hours, it’s hard to get all of them and like if you come in the morning to make up hours, you have to then stay in the afternoon and it’s not as easy as everybody thinks, so you gotta be here.” (#9, p.2)

This statement from a student shows that the teachers in the CTE program were willing to become involved with the students and provide them with the guidance and assistance that they needed to succeed. It was not simply a matter of having rules and procedures to follow. Instead, the teachers in the program were willing to take the time
to become involved with the students and help them recognize the importance of something as relatively simple as showing up for the program and not needing to make up time because of the additional strain that it can cause the students.

From these two categories, themes emerged that make an excellent case for high schools to take a comprehensive approach to education. These themes are equity, respect, and opportunity. Throughout the research participants’ responses, there are examples that support comprehensive high schools.

“My teacher has confidence in me, cause he sees what I can do, doesn’t just lecture us all the time.” (#10, p. 3)

This single statement by a student in the CTE program shows the importance of moving away from solely lecturing students to actually working with students. Rather than creating an atmosphere in which students feel disrespected and looked upon as being incapable, an environment should be created in which students feel that they are treated equally regardless of their individual abilities or desires after high school. The environment should also nurture a variety of opportunities for students regardless of whether they are planning on attending college after high school or if they want to enter the food service or cosmetology industries.

An article, *Reinventing the Federal Role in Education*, from the February 2010 edition of Education Digest reports that the mission of public education must shift from teaching students 20th century skills, to educating all students and preparing them for the 21st global economy because the new goal must be career readiness.
“There’s a big difference here, I mean a really big difference than my school, cause we get to work with other people, like when we have clinic, we get to do the customer’s hair and they make appointments and pay like a real salon.” (#8, p.2)

“I like this program cause you’re up and moving and cooking food every day and doing it and it smells good and we get to cook for events at school and stuff.” (#7, p.3)

“When you get out of BOCES, you can actually be certified from the NATEF exam we just took which gives you way better opportunities than kids who didn’t go to BOCES.” (#5, p. 2)

These students’ comments demonstrate the perceptions of students that are causing the need for a shift in the role of public schools. While it is true that there will always be a segment of students that will graduate from high school and immediately enter college, most students will leave high school and lack a specific direction with regard to their professional aspirations. The problem that currently exists is that because most districts lack comprehensive career and technical education programs, these students have no preparation for any type of technical jobs. Instead, they must rely on the knowledge that they have received that has largely been based on a college-track program to try and obtain jobs. From a practical standpoint, this is not the preparation that students need that are not planning on attending a college immediately after high school. Instead, they need some type of technical training that can prepare them for technical certifications and the ability to demonstrate real-world experience to employers.
These student voices support more comprehensive high schools as a means for education reform. The Bill and Melinda Gates Foundation’s authoritative study, *The Silent Epidemic*, confirms that one third of high school students do not graduate, therefore we must make it our mission as educators to transform high schools into places that engage all students. “We cannot serve all students best and set the stage for creating tomorrow’s world by relying on a 200-year-old core that was intended for educating only those being groomed for power and influence.” (Siegel, 2010, p. 740)

**Negative Statements/Opportunities for CTE Improvement**

The research participants had some minor concerns that were reflected in the interviews. These concerns are an opportunity for continued CTE improvement. One student stated:

“Something that made me mad last year was that a couple kids would get in trouble and my teacher had to concern his energy on them and let them fool around before he sent them to the office.” “He should have sent them out at the very beginning of class and let the other kids learn.” (#6, p. 2)

This complaint might seem interesting considering that the stereotype that exists is that students in career and technical education programs are the troublemakers that could not survive in a traditional classroom setting. However, this comment shows that students that are truly committed to their career and technical education experiences do not want to be bothered by students that are not fully committed to the program. Instead, they want to obtain as much from the time that they can spend in the program as possible. For CTE program administrators, this might mean determining if students are simply not taking the program seriously or are not receiving the intervention that is necessary to
demonstrate to them the value that exists in being able to participate in the CTE experience.

This student demands discipline and a productive learning environment, but has not had an opportunity to voice her concern. If asked, this teacher is probably unaware that she was affected and her learning interrupted by this other student.

Another concern expressed by a student was:

“Other girls in my class have issues and there’s drama, but you’ve got to be the grown up and tell the teacher, so she can deal with it.” (#8, p. 2)

This complaint on the part of this student might actually suggest a larger issue of helping students overcome some of the issues and concerns that occur with teenagers. It might be necessary to determine if guidance counselors could be brought into the CTE program to provide some psychological advice to help students deal with the issues that are typically present with regard to interpersonal relationships and transitioning from adolescence to adulthood. The cause of the drama that the student complains about may not be related to attempting to create trouble in the program, but instead normal adolescent reactions to the many issues and concerns that people in this age group face in their lives.

Participant number eleven had a concern about the change in vending machine procedure.

“Now they changed it, you have to go to vending then class, it should be class, then vending cause then people forget and the teacher won’t let us go back even though we can eat in class, I’d rather get stuff out of the vending machine. (#11, p. 7)
While this concern might actually seem quite trivial, it might actually show an area of concern with regard to the larger issue of respect that seems so important in this CTE program. If students are typically treated like adults with regard to correcting mistakes and being able to handle personal issues during the CTE sessions, then something as relatively simple as being able to retrieve a snack from a vending machine would seem to be part of the way in which adults behave. Making students responsible for determining if they want to leave class to obtain a snack from a vending machine as opposed to purchasing the snack before class is something that fits into the larger idea of treating the students as adults who can make independent decisions.

These responses will be shared with teachers and administrators in order to make improvements to CTE programs.

Summary

The collective experience of CTE students’ perceptions of the features that contribute to their academic achievement and graduation were evident in the core categories and themes. This study is significant because it plays a role in increasing graduation rates and also provides critical information about delivery of CTE and could improve the hiring practices that CTE administrators use when hiring new CTE teachers.

Opportunities, respect and equity are essential components of education and if exercised by teachers could help to retain students in school and allow them to graduate well-equipped for their future. This study also makes a case for more comprehensive high schools that facilitate a transition from high school into the world of work. The key, however appears to not be simply to implement career and technical education programs without implementing changes in the actual environment that exists that this study has
shown helps to facilitate the learning process and graduation rates. The model, Linkages for Lifelong Success, should be implemented into all high schools in order to create a more comprehensive educational experience for students. It is these themes that will create an environment in which students with a full range of plans after high school, from attending college to entering the workforce can learn and graduate with the skills they need for their future.
Chapter 5: Summary and Implications

The purpose of this study is to understand the perceptions that CTE students have about the organizational features that add to their academic success and graduation. Understanding these perceptions will provide information to educators about how to deliver CTE in a manner that ensures student success.

This qualitative study revealed that organizational features were not found but instead based on students’ perceptions, opportunities, respect, and equity and the way they are treated are essential features of education that lead to their academic success and graduation. This chapter summarizes the research process that revealed core categories and themes which led to an emerging theory about CTE students’ perceptions. The chapter concludes with limitations of the study and recommendations.

Summary of the Research Process

This study explored the collective experiences of CTE students’ and their perceptions about the organizational features that lead to their academic achievement and graduation. Study participants were intentionally chosen from 3 CTE programs to best represent the voices of CTE students. They signed consent forms to engage in semi-structured interviews that were audio recorded and transcribed. This grounded theory study involved a constant, comparative method of collective data followed by coding and analysis.

The emergent theory about what increases the participants’ academic achievement and leads to their success when enrolled in CTE programs was discovered through
coding. A focus group was employed for member checking, but was conducted too early in this study before the emergent theory was discovered. Significant quotes from participants supported the findings and added value to the study.

**Summary of Findings**

There are many educational programs and models for student success, but very few focus on students’ perceptions and their voices. Reforming the way we make educational decisions needs to include the voices of students. The process by which students learn best and succeed when enrolled in CTE programs is depicted in the model, Linkages for Lifelong Success. It was created as a result of this emergent theory (see Figure 4.1). Core categories embedded within this model are (a) BOCES versus District and (b) Intervention. Themes that were expanded from these core categories are (a) Equity; (b) Respect and (c) Opportunities.

As educators and executive leaders we make decisions about what we think are effective resources and tools for students without ever including them in the decision making process. How can we imply that we provide a quality education without including the voices of our most valuable assets, our students?

**Implications of the Findings**

The results of this study suggest that when students are treated with respect and provided with opportunities to learn and succeed, it leads to their increased academic achievement and graduation. This study also indicates that CTE teachers have a direct impact on student success. There are specific implications from this study for professional practice, for educators, for executive leaders, and for further research. The
The overriding implication that is derived from the finding of this research is the need for comprehensive high school education in the United States.

The existing educational program that is used in most school districts across the country is one in which the assumption is that all students will leave high school with the desire to attend college. Even more, it is assumed that even those students that are not planning on immediately attending college after high school can find value in the college preparatory program in place in most traditional high schools. The problem that then occurs is that when students are not able to connect a desire to enter a career field in which a college degree is not needed such as in food service with the curriculum that exists there is an attitude that the students are somehow to blame. An attitude is put forth that all students need a college preparatory set of skills and knowledge.

However, the inverse in most schools is hardly ever true; that students may actually need to have a course of study that prepares them for real-world job experiences and the ability to obtain technical certifications so they are as prepared to enter a career field upon graduation as the students that are planning to enter college are prepared for that endeavor.

The result is that students without the desire to enter college upon graduation are often left to take care of their own career needs. In the interim, these students often become bored with school because they are truly unable to connect how much of the theoretical knowledge that they are learning will apply to a desired career path. The result in the lack of comprehensive high school education programs that exist in the United States is that a segment of students become bored and disillusioned with the educational experience.
It is also important to examine the internal environment that seems to exist in many traditional high school programs across the United States with regard to interactions between students and teachers. These school environments are largely based on the idea that the teacher should provide knowledge and the students should acquire that knowledge. There is very little truly equal interaction in which students feel that they can take a direct role in their learning and receive coaching and mentoring from their teachers. The results of this study have demonstrated that the students in the career and technical education program valued the equality that existed in the program, and the perception that the teachers were truly interested in engaging them in tasks as opposed to simply telling them how to do something and expecting a perfect result the first time.

A comprehensive high school curriculum in the United States would provide a way to serve all types of students and avoid the current situation in which only a segment of students feel that they are receiving the education and opportunities that are needed for their future goals. Specifically, it is the students that are on their way to college after high school that are receiving the type of educational experience and opportunities that they need. With a comprehensive high school curriculum, the full range of students would receive the opportunities that they need for their future career goals. The students that want to pursue cosmetology or food service careers would be able to receive the opportunities that they need to receive technical and professional certifications, and to have the real-world skills that they need to immediately enter into the job market in their chosen fields.

In terms of graduation rates, the implementation of comprehensive high school curriculums would result in higher graduation rates. As the comments from the students
in this study have shown, it is the ability to feel respected and to be able to take advantage of opportunities that seem relevant to them and their future goals that kept them in school and even increased their interest in school after entering the career and technical education program. By implementing career and technical education programs across the United States, students that want to pursue technical careers after high school will have a motivating factor to remain in high school. The ability to not only receive a high school diploma, but also a professional or technical certification will be a major motivating factor to stay in school.

Those that argue that implementing any type of career and technical education program in schools is only a way to lower curriculum standards as a means to artificially inflate graduation rates only need to examine the comments from the students that took part in this research. The students clearly indicated that they were more involved in their educational experience, and some of them actually sought out educational or student awards in their home school districts because of their involvement in the career and technical education program. It was the involvement in the career and technical education program that created the desire to stay in school and even seek out academic accolades.

One of the students that was interviewed for this study also noted a plan to attend college after high school to pursue an education in alternative fuels. This interest in alternative fuels was sparked because of being involved in the CTE program’s auto mechanics course. Simply because a student may not be entirely in a college-preparatory program does not mean that those students may not seek out college in the future as there are many CTE type majors offered at colleges. In addition, having a comprehensive high
school curriculum does not mean that students that plan to seek technical jobs after high school will not take part in some of the same classes as those students on a college-preparatory track. Having a comprehensive high school curriculum simply means providing students with career and technical education options should that be of interest to them.

Finally, it must be understood that the implementation of a comprehensive high school curriculum cannot simply mean providing career and technical education classes with the existing internal environment that exists in many schools. Instead, a change in culture to one that incorporates opportunities, equity, and respect must occur. The findings of this research should not be understood to indicate that any type of career and technical education program can lead to higher graduation rates and more involvement in the educational experience by students that are interested in technical jobs after high school as opposed to attending college. Instead, the larger model that has been explained that involves the intersection of respect, opportunity, and equity is a vital component to creating the outcomes that are possible for students with the introduction of career and technical education programs and a larger comprehensive high school curriculum. Utilizing this model and changing the existing culture that is prevalent in high schools across the country with regard to students feeling disrespected or treated unfairly, and certainly not given full opportunities to explore technical educational options, is necessary for CTE programs to truly be effective.

Implications for Professional Practice and Educators

This Linkages for Lifelong Success model of exhibiting equity, respect, and opportunities could be taught to teachers as part of their professional development plan.
Teachers across the country currently take part in yearly training on a variety of topics related to the changes that occur in the educational industry in the United States. This model could easily be taught to teachers. The instruction, however, would likely need to move beyond a simple classroom discussion and instead provide teachers with a way to actually experience the model in practice. The benefit of this is that teachers could experience on a first-hand basis that the model can be used in actual practice and that it is more than a theoretical concept.

At the same time, this type of training for teachers would allow them to see on a first-hand basis how the use of the model can impact the attitudes and outward behaviors of students. The benefit in this is that teachers can see for themselves that this model is not merely a new fad in education, but is instead a concept that has already been shown to positively influence students and to create a more pleasant internal environment in the school setting. Just as with students, the teachers who are expected to embrace the Linkages for Lifelong Success model will have to receive training that will demonstrate the quality of the knowledge being taught, as well as why it should become part of their normal professional actions.

Also, teachers who practice this Linkages for Lifelong Success should be paired with new teachers as their mentors. This would help ensure that more students were exposed to this model. Skills that need to be developed in order to demonstrate this instructional strategy include sensitivity, compassion, commitment to student success and the belief that all students can succeed, and sociocultural competence. It cannot be expected that teachers will receive a single training session or even a few training sessions and be prepared to take on this model. This model is a major change in the
educational setting and the interactions that occur between students and teachers as compared to what is currently used in most schools and classrooms. Teachers that are proficient not only with understanding the basic concept of the model but also implementing it on a consistent basis will need to show others how this can be accomplished.

However, at some point, teachers will have to be held accountable for carrying out the model and being able to demonstrate that they can establish an environment of equity, respect, and opportunities. Training and mentoring are certainly necessary and must be provided, but teachers cannot go on for years claiming an inability to effectively integrate these themes into their classrooms and the larger school environment. If a comprehensive high school curriculum is to become the norm in the United States, existing teachers will have to make a transition to the new model and to working within the environment that this model is being used to create in schools.

In addition, colleges that have teacher education programs will need to ensure that this model is part of the curriculum that is taught to future educators. In order for this model to be fully implemented and for a comprehensive curriculum to take hold in high schools, future educators will have to be taught about these things and introduced to them as early as possible. If fact, the idea of comprehensive high schools and a curriculum that is meant to engage all students as opposed to only those on a college-preparatory track will require a change in the way that colleges educate future educators. They will have to be taught about the benefits that are possible with a comprehensive curriculum and by embracing the themes of equity, respect, and opportunities toward all students regardless of their future career plans.
Successful implementation of this model into classrooms depends on the commitment of teachers and of administrators to hold teachers accountable for implementation and practice. Actively engaging in this teaching model will increase the number of students who graduate and will improve their academic achievement. For teachers, seeing improvements in high school graduation rates will encourage them to become even more involved with their students and to actually work to improve other teachers who might attempt to openly work against the comprehensive high school model and the themes of respect, equity, and opportunity. If teachers are going to be considered professional in how they work with students, then part of this professionalism is not simply working with the model, but also working to ensure that their colleagues are not trying to prevent the model from being successful.

Teachers who are truly opposed to such a change in the American educational curriculum must be reminded to examine the current problems that exist in many schools across the country. The high school dropout rates are higher than most people would like, but simply demanding that students stay in school is not going to correct the situation. Instead, teachers must recognize that they have a powerful position in which to actually make students feel respected and to treat them in an equitable manner to provide opportunities for them regardless of whether they are going to college or whether they seek to enter a technical trade.

*Implications for Executive Leadership*

In order for this model to work after implementation by teachers, executive leaders and administrators teaching strategies must be observed on a regular basis. Teachers who are not successful at implementing the model must be held accountable by
administrators in order for increased academic achievement to occur. This has already been briefly mentioned, but the reality is that there must be real consequences for teachers that truly show a desire to work against a comprehensive high school curriculum and the Linkages for Lifelong Success Model.

Observation forms should be developed with categories that site specific examples of students being treated with respect, and also being given opportunities to succeed as well as examples of equity in the classroom. Affective objectives that target the awareness in attitudes, emotions, and feelings should be evident in classrooms and documented on observation and evaluation forms. Such observation forms would work to ensure that teachers are not simply monitored at a specific time in which they can put these ideas and concepts into action for the purpose of receiving a good evaluation only to return to not use these concepts again until the next evaluation. An on-going process of evaluation will help to recognize teachers that are not following the model that has been outlined. It will also allow administrators to identify those teachers who may be directly trying to make the model not be effective in their classrooms and their interactions with students throughout the educational setting.

In fact, part of the way in which administrators monitor and evaluate teachers should be based on the interactions and mentoring that occurs outside of the classroom. As this research has shown, something as simply as engaging students in a friendly manner outside of a classroom during lunch can mean a great deal to a student and improve his or her perception of the school environment. This is not something that can be ignored if the internal environment of schools is to be changed. The themes of respect, equity, and opportunities cannot be important in the classroom while being
ignored in other areas of interaction in the schools. Instead, administrators must create an
environment in which these themes are in place and become the norm regardless of
whether an interaction occurs in the hall, in a cafeteria, or in the classroom.

Also, this study and model of collecting data is a valuable resource for executive
leaders. As an administrator, assignments can be given to staff member to interview a
sample of students, parents, or faculty to answer a research question. This data can then
be analyzed and a theory developed. By replicating the format of this study, it can
become an effective tool to collect data in any district. Duplicating this exact study in
other CTE centers will add to the research and measure what other CTE students identify
as contributors to their success when enrolled in CTE programs.

Teachers should be given support and resources by their colleagues and
administrators when implementing this new model in their classroom. What this means
is that if a teacher is truly working to implement the model and to create a supportive
environment but the implementation is not working well, administrators should view this
as an opportunity to help both the teacher and the overall school environment. There is a
difference between a teacher that is truly trying to implement this model but is not being
successful as opposed to teachers that are completely ignoring the model. For those
teachers that are truly trying to implement this model, administrators should be prepared
to act as mentors and to provide constructive feedback about what is working and what
changes might be made to make the final outcome more positive.

In addition, administrators must realize that implementing this model will change
the way in which they perform their jobs. The job of school administrators will not
longer be simply to monitor teachers and students and ensure that specific guidelines and
mandates are being followed. Instead, they will need to become more directly involved in activities and interactions to ensure than an environment of respect, equity, and opportunity is being created. Even if teachers are able to handle most of this change on their own, the administrators need to be involved to support the new environment and ensure that it continues from year to year. As new teachers enter and leave a school, there must be a strong environment in place to show them the importance of the respect, equity, opportunity model. Otherwise, the work performed in one year to create such an environment and to truly focus on a comprehensive curriculum could easily be lost in the next school year.

**Implications for Further Research**

An implication for further research is to present the developed model to a group of CTE students in order for them to reflect on their experiences and share examples of equity, opportunities, and respect and examples of when these three features did not exist in the CTE experiences. This research would allow for an understanding of how the model can change attitudes not just at one moment, but overtime. The students in such an investigation can provide researches with access to information and perceptions about the positive changes that occur because of the full implementation the model. However, they can also provide information about any problems that they witnessed with the new model. This is important because there are likely to be challenges and concerns even with this new model. None of the implications or analyses that have been provided have attempted to suggest that implementing the Linkages for Student Success model will be without problems or issues. This type of research would simply allow for an understanding of
both the successes and problems form the standpoint of the students that experience such a change.

Also, participants in this study were all from the same geographic region and had many of the same experiences. Another implication for further research is to expand this study to a larger geographic area and to interview a more diverse group of CTE students.

It is possible that regional differences across the United States may impact the way that students perceive this model and the larger idea of a comprehensive high school curriculum. It is possible that implementing career and technical education programs and a comprehensive high school curriculum may not be as well perceived or even accepted in more suburban areas as compared to a large urban center. The ideas about future career goals may simply differ with the result being that career and technical education is not perceived to be very important.

On the other hand, expanding the range of geographic areas might also show something very different. Stereotypes about students in suburban areas being more likely to pursue college after high school may not be the reality. Instead, even students in suburban schools and higher income areas of the country might actually value the implementation of comprehensive high school curriculum and the themes of equity, respect, and opportunity regardless of whether a student is planning to attend college or enter a food service career.

Further study with participants who have teachers that have successfully implemented this model after receiving professional development about it could have an implication for educators. Again, this type of research would help to determine how experienced teachers implement the respect, equity, opportunity model, as well as how
they use the model in the larger educational setting. This would help to further determine positive and negative aspects of the model and its implementation. It would also allow for an additional understanding of how students perceive the model’s use in action and how it affects their interaction with teachers.

Additional study of these students will indicate whether this model can lead to more increased academic achievement and graduation of CTE students. It can also be used in a general way to provide guidance to the larger educational community in the United States. As with any concept or model that is new for a large number of people, which would certainly be the case with this model in most traditional school settings across the United States, there is a need to collect as much information as possible to provide feedback, guidance, and instruction to others. With the creation of ongoing research and investigation on this subject, a large amount of information can be collected and used to better understand the implementation of comprehensive high school curriculums and the creation of school environments in which respect, equity, and opportunities are themes that are truly taken seriously.

Recommendations

Based on the issues and ideas that have been discussed, it is possible to provide several specific recommendations for teachers and administrators with regard to career and technical education, as well as the Linkages for Lifelong Success model that has been discussed. The first of these recommendations is that comprehensive high school curriculums are needed in the United States. The existence of college-preparatory curriculums, which is what exists in most school systems, ignores the needs of a large segment of students that are not planning to attend a college upon graduation from high
school. A comprehensive high school curriculum that involves career and technical education will allow all students to take advantage of educational opportunities that suit their future career plans.

However, the implementation of career and technical education courses as part of a larger comprehensive high school curriculum should occur with a larger goal of changing the current internal environment that exists in many schools across the country. Rather than having an environment in which teachers provide knowledge and students are expected to absorb the knowledge, an environment is needed in which respectful and genuine interaction occurs between teachers and students. An environment is needed in which students are treated in a way that allows them to pursue various educational options, and allows them to be a partner in their learning without feeling punished or humiliated because of mistakes.

This leads into the third recommendation, which is the implementation of the Linkages for Lifelong Success. This model provides a way for teachers and administrators to understand how creating a respectful environment in which students feel as though they are treated with respect from teachers and that all students are treated in an equal manner creates outcomes in the form of an increased desire to learn and a desire to stay in school. At the same time, this type of learning environment allows for greater opportunities for students to pursue educational and career goals, as well as allows teachers and administrators to provide students with educational and career goals such as allowing students to meet and learn from working professionals and to take technical certifications before they complete high school.
The fourth and final recommendation is related to the ability to create the respectful and equitable environment that will allow students to receive opportunities to pursue educational goals that match their career goals upon graduation: conduct comprehensive teacher training and monitoring. Teachers will need in-depth training on this model and the transition to a comprehensive high school curriculum that includes career and technical training. It cannot be assumed that making a major change in the curriculum will simply result in teachers being prepared for the change, or able to work with the changes automatically. Instead, school districts and even colleges with teacher education programs will have to be part of the training process. Teachers will need to be taught the Linkages for Lifelong Success model, and they will need to see the model in practice.

In addition, it is likely that some teachers that are accustomed to the idea of a college-preparatory curriculum may want to avoid fully implementing the respect, equity, opportunity model or even work with administrators to create an environment that will allow a career and technical education program to flourish for the benefit of the students. This is why consistent on-going monitoring on the part of administrators must occur. This will allow administrators to identify those teachers that may need additional assistance in fully implementing the model as well as those that may not be attempting to implement the model at all. Through the process of on-going monitoring, administrators can ensure that teachers are working to create the internal school environment that is necessary to increase graduation rates. It will also allow them to make decisions regarding whether some teachers are simply refusing to implement this plan and need to be terminated.
Piloting the Model

The Linkages for Lifelong Success model will be piloted beginning in September 2010 when the Niagara Career and Technical Education Center opens its doors to 9th grade students from a component district’s high school one day per week. Teachers from this high school will accompany 50 students who will get a chance to experience twelve CTE programs offered by the center. This program is designed to pilot the Linkages for Lifelong Success model as well as provide students with career awareness and exploration.

Limitations of the Study

This study used grounded theory, a qualitative design. Limitations exist in all studies and the data collection process and the analysis also has limitations. Participants in this study all attend the same CTE school and many have had the same experiences. In addition, if participants misinterpreted the meaning of specific questions, limitations may have occurred. Also, some students may have engaged in conversations with one another during the interview process and therefore influenced their personal responses to the interview questions.

The focus group was done too early in this study and is a limitation. The model was not developed before the scheduled focus group. It would have been helpful to share during the group session in order to receive participant feedback and to generate discussion.

Another limitation is that even though the researcher was a principal in another CTE center, some students may have been anxious about the positional power of an administrator interviewing them and therefore limited their responses about negative
aspects of CTE. If the study is duplicated, having a counselor interview students may increase its accuracy and effectiveness.

Summary

Bringing together CTE teachers and their traditional high school counterparts and focusing on a comprehensive approach to education through on-going and sustained professional development, the effect on student achievement and on graduation rates in particular, will be significant. The data from the student interviews coupled with the already existing CTE research clearly indicates the need for states and school districts to establish opportunities to link the CTE and traditional high school curriculum in order to create high schools with 21st century learners in mind.
References


http://www.credoreference.com/entry/8058254.


Appendix A

Interview Protocol: A *Grounded Theory Study of Successful Career and Technical Education Students’ Perceptions of Organizational Features that Contribute or Detract from their Academic Achievement and Graduation*

Date of Interview:

Time:

Place:

**The following questions will be asked of all students interviewed by the investigator:**

What has your CTE program been like for you? Why?

What are the positive things about CTE? Why?

What are the negative aspects? Why?

What contributes to your success here? Why?

What contributes to your failure? Why?
Has your attendance improved since attending a CTE program? How about your grades? Why?

Have you had more or less discipline issues since attending your CTE program? Why?

Think about your program and experience here. How would you improve the CTE program if you could design it differently? Why?

As is typical of grounded theory methods, the investigator may probe for additional details based on previous responses.
Appendix B

St. John Fisher College
INFORMED CONSENT FORM

Title of study: A Grounded Theory Study of Successful Career and Technical Education
Students’ Perceptions of Organizational Features that Contribute to their Academic
Achievement and Graduation

Name of researcher: Melisa Niver

Faculty Supervisor: Dr. Guillermo Montes
Phone for further information: 585-899-3734

Purpose of study: To develop a theory about what CTE organizational features successful
CTE students believe contribute to academic achievement.

Approval of study: This study has been reviewed and approved by the St. John Fisher
College Institutional Review Board (IRB).

Place of study: Orleans/Niagara BOCES, Medina CTE Center

Length of participation:
- One 45 minute one-on-one interview.
- One 45 minute focus group will follow the interview process to discuss findings
of the study.

Risks and benefits: The expected risks and benefits of participation in this study are
explained below:
• You are eligible for this study because you are a successful CTE student. This study will ask you about the positive and negative things about your experience at the Medina CTE center. I will also ask you questions about your grades and discipline issues. You do not have to answer any questions that make you uncomfortable. I am also asking for permission to view your school file.

• The interview and focus group will be scheduled at your convenience in order to minimally disrupt your school day. All identifying information will be kept confidential and not shared with the school.

• You will not directly benefit from participating in this study. However, by participating in this study, you may be contributing to CTE by helping us to identify the features of this type of education that lead to success. Your input may also help with recruiting new students and new teachers.

Method for protecting confidentiality/privacy:
Audio recordings will be transcribed by a professional service, and all written and audio-recorded information will be secured until the study is completed, and destroyed one year after successful dissertation defense.

Your rights: As a research participant, you have the right to:
1. Have the purpose of the study and the expected risks and benefits fully explained to you before you choose to participate.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to you.
5. Be informed of the results of the study.

I, the research participant _____________________________ , consent to my participation in the above-named study. I understand that I will participate in a 45 minute one-on-one interview and also a 45 minute group discussion. I also consent to the viewing my school files located at the Medina Career and Technical Education Center by the investigator. I also certify that I am 18 years old. I have received a copy of this form.

Print name (Research Participant)    Signature     Date
Print name (Investigator)    Signature     Date

If you have any further questions regarding this study, please contact the researcher listed above. If you experience emotional or physical discomfort due to participation in this study, contact the Office of Academic Affairs at 585-385-8034 or the Wellness Center at 585-385-8280 for appropriate referrals.