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The Impact of Career and Technical Education Programs on At-Risk Secondary Students

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2012

Abstract

The Impact of Career and Technical Education Programs

on At-Risk Secondary Students

by

Sabrina E. Smith

MS, Walden University, 2007

BS, Virginia State University, 1996

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Teacher Leadership

Walden University

December 2012

Abstract

As the number of youth at risk for educational failure has increased, so has the debate

over the appropriate nature of career and technical education (CTE) programs for such

youth. The purpose of this study was to gain an understanding about the manner in which

CTE programs within vocational schools affected secondary students at risk for

educational failure. The educational theories of Pestalozzi, Dewey, and Rousseau served

as the conceptual framework for this study by supporting the development of students'

intellectual, social, and emotional growth through hands-on activities rather than

traditional rote learning. Data for this case study were collected through interviews and

observations from 9 purposefully selected students enrolled in vocational school CTE

programs. Qualitative strategies of memoing and coding supported interpretative data

analysis for this case study. The participants revealed that their CTE programs had a

positive impact on their lives. Findings that emerged from this study centered on job

security, hands-on learning, and personal growth. These findings provide important

empirical evidence of the utility of CTE programs for at-risk students. This evidence

contributes to positive social change by illuminating an alternative education setting that

enables at-risk students to attain and maintain academic success. This evidence also

holds promise for positive social change by guiding the efforts of education stakeholders

in determining the appropriate educational placement for at-risk students, placements that

will promote a sense of belonging rather than alienation.

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Dedication

This dissertation is dedicated to my fiancé, James. He has endured these years with me as I pursued my goal of earning a doctorate degree. When I did not think I could continue, he always supported me and encouraged me to keep pushing! James, I love you!

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This was a goal that I admit I did not think I would achieve because it was so grueling! Many people encouraged me throughout this journey. First, I would like to thank Dr. Thomas Cavanagh, my doctorate chairperson for his never ending support, guidance, and knowledge. You are awesome! I also would like to thank Dr. Margaret Rowe, Dr. Theresa McDowell, Dr. Jeanette Edlow, and Dr. Irma Harper for their assistance. I would also like to thank my wonderful dissertation editor, Dr. Hollie Jones.

I would like to thank my sister, Kina, for her encouraging words and belief that I could do this. Finally, I would like to thank my fiancé, James. I did it honey…I am finished with school! Faith in God and perseverance got me through!

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Section 1: Introduction to the Study

Overview

This qualitative case study focused on career and technical education. Vocational education was integrated in the United States' public schools in the 19th century (Castellano, Stringfield, & Stone, 2003). Due to the decline of manufacturing jobs, enrollment in vocational education decreased (U.S. Dept. of Education, 2000). As a result, an evaluation was passed by the federal legislation that suggested that vocational education should become more effective and active in the secondary system. To accomplish this, the professional vocational association stopped using the term *vocational education* and began to use the term *career and technical education* (CTE) to reflect the improved programs offered in technology (Lynch, 2000).

The subtopic for my study was at-risk students. At-risk students are students who are in jeopardy of failing to complete their education at an average skill level. Factors that contributed to these students being at- risk were low achievement, grade retention, behavior issues, truancy, and low socioeconomic (Slavin & Madden, 2002). In today's educational system, much of the focus is on the academic achievement of the at-risk population. The concern about this population succeeding educationally is increasing (Johannessen, 2003). These students were labeled with various terms, such as, *disadvantaged, resistant, nonreluctant,* andmost commonly*, at-risk.*

This at- risk population appears to be growing in many school systems. Consequently, alternative education options that promoted success in various aspects of life among this population were mandatory. Within the past years, there has been an increase in the number of alternative education programs serving children at risk for

educational failure (Foley& Pang, 2006). This led to the consideration of career and technical education (CTE) programs. CTE was capable of cultivating productive lives and transforming the need for learning from being mundane to being significant (Brewer, 2004). A shift in the global economy and education arena introduced business demand for more workers with both academic and career skills; hence the need for CTE programs (Schargel & Smink, 2001).

Researchers found that students considered at risk for educational failure, or disadvantaged for any reason, have greater overall academic success when enrolled in a CTE programs (Brown, 2000; Maxwell & Rubin, 2000; Stern, Dayton, & Raby, 2000). Such intervention can increase student engagement and retention, as well as promote lifelong learning (Brown, 2003). At-risk students may not possess the interest, ability, or skills to pursue college-preparation curriculum. By updating the academics of CTE programs, as well as the work skills they address, students can achieve academic and professional success through different avenues (Landsberg, 2006). The enrollment of students within U.S. public schools who face obstacles at various levels of severity affecting their academic, emotional, and social performance increased at a consistent pace (Brewer, 2004). Administrators, counselors, and educators needed help with the placement of this growing student population and successful interventions targeting their academic success.

This section includes a discussion of the issue being addressed, and an abbreviated explanation of the purpose of the study, which is discussed in more details in Section 2. The nature of the study, conceptual framework, and definition of terms, assumptions, delimitations, limitations, and scope are presented. Also, the significance of

this study is discussed.

Problem Statement

The personal, economic, and social costs of academic underachievement are high and growing (Chappell, 2006). As the number of youth at risk for educational failure increased, the debate over the appropriate nature of CTE programs for such student populations continued. Understanding of the positive impact these programs can have on at-risk students should be increased. Research has shown that such programs can provide secondary students with practical skills and the intense academic instruction that will simultaneously prepare them for college and the workplace (Kristen, 2002). Studies have also found that state-approved CTE programs have a higher overall success rate than other high school programs with the described student population (Thompson & Gotbaum, 2008). However, the extent of CTEprograms' effects on these youths individually is largely unknown. This was a major issue in a large metropolitan area of the eastern portion of the United States because of the increased diversity among the student population and because of various family dynamics. The investigation of CTE programs and their impact on at-risk students can assist educational stakeholders with making effective placement decisions for these students.

Various factors contributed to this problem; however, the primary factors are associated with the negative stereotype regarding CTE programs and various cultural perspectives regarding the effect of these programs on students (Dare, 2006). The various costs of academic success were increasing and as the number of youth at risk for educational failure increased, the debate over the appropriate nature of CTE programs for this student population continued. This study addressed CTE as an appropriate

placement for this population and the gap in literature regarding these programs and their effectiveness in the United States.

Nature of the Study

In qualitative research, research questions "narrow the purpose statement to specific questions that researchers seek to answer" (Creswell, 2005, p. 117). Research questions should be well written, researchable, and involve an area that relates to theory or an applied context (Bradley, 2004). Ensuring each research question is effectively formulated can consume much time and effort. Research questions are typically designed in an open-ended fashion to allow for the development of hypotheses. As noted by Ohman (2005), research questions in a qualitative study enable the participants to convey their stories. Open-ended questions also allow researchers to more easily maintain an open mind during the data collection and analysis processes. The research questions not only guided the study but also allowed unexpected questions and hypotheses to emerge. The study was guided by the following research question: What were the experiences of students at risk for educational failure who were enrolled in a CTE program?

This study was a qualitative case study. Since the study involved an in depth investigation of a phenomenon, this design was optimal for this research. The study included data collection from purposefully selected students from the various areas of interest within the CTE program offered at a vocational.

Data for the case study were collected through observations (see Appendix A) and interviews (see Appendix B). Intensive, formal structured interviews were conducted with each participant. The length of the interviews was a maximum of 45 minutes. I used a digital voice recorder to eliminate the documentation of incorrect information. Once

signed consent forms and letter of cooperation were obtained, each student was observed at the vocational school. Observations were conducted for a maximum of 1 hour. The participants were not engaged in conversation during observation in order not to distract them from their classroom instruction.

The interpretative data analysis (Hatch, 2002) method was implemented in this study. I reviewed all observations and recorded conversations to obtain a sense of what information should be included in the research. Afterward, all personal impressions formed by me were documented in memos and studied for noticeable interpretations. I implemented the coding of frequent interpretations and then developed a draft summary of the data. To avoid inaccuracy of information conveyed by participants, member checking was utilized. The final step was to develop a revised summary with excerpts to support interpretations. Also, for security purposes, data were contained in a locked file cabinet.

Qualitative research is based on the idea that meaning is socially developed by individuals in interaction with their world (Merriam, 2002). In a qualitative research, "the particular stance will determine the specific research design that will be implemented when executing the study" (p. 4). The case study design was implemented because the primary goal of the study was to understand a phenomenon in depth.

Purpose of the Study

Through a comprehensive review of the literature, it became apparent that although there is much information available about CTE programs, the existing knowledge about how these programs affected at-risk students was still not clear. Therefore, the intent of this study was to gain a deeper understanding about the manner in

which CTE programs within vocational schools affected secondary students at risk for educational failure. The purpose of this study was to gain an understanding of the experiences of students at risk for educational failure who were enrolled in a CTE program. The term *at-risk* was defined as a student in jeopardy of dropping out of school. CTE was defined as a program that focused on an area of vocation or skill. This case study was limited to secondary at-risk students enrolled in CTE programs.

Conceptual Framework

The approach that enabled me to explore the phenomenon fully was the constructivist paradigm. I needed to establish a mutual bond with the participants to capture the perspectives or actual reality of the group being studied, which was at- risk students (Hatch, 2002). Creswell (2007) defined the constructivist paradigm in research as the researcher depending on the participants' views of the situation or rather their views of the world in which they live. It involved listening carefully to what the group, in this case at-risk students, said and did in their observed setting, which was the career and technical education program/classroom. Constructivism in research focusing on how the group members interacted with each other in their particular setting. I adopted that stance for this study.

Using Pestalozzi's(McKenna, 2010), Dewey's (Schmidt, 2010), and Rousseau's (Gilead, 2012) theories as the conceptual framework provided a solid foundation for an investigation of the research question. The essence of the research involved all education stakeholders interested in the needs and interests of students at risk for educational failure. The findings were expected to provide a clearer understanding of CTE programs and the results of decisions leading to the placement of these students. The study

primarily drew on Pestalozzi's career and development theory, Dewey's democratic humanism theory, and Rousseau's human development theory.

All of these past educators stressed that the interests and needs of children and hands-on learning through the usage of all senses were lacking in traditional schools. Using these theories, the premise for this study was that CTE programs are an effective and appropriate area of interest for students. According to Pestalozzi (McKenna, 2010), schools should integrate more hands-on activities rather than traditional learning through textbooks and rote memorization. He emphasized that such education was manifested through student engagement in activities that lead to useful vocations complemented by other studies. Moreover, Pestalozzi's career and development theory highlighted the urgency for schools to educate students in a manner that is holistic, intellectual, social, emotional, and physical.

Similarly, Rousseau (Gilead, 2012) and Dewey (Schmidt, 2010) did not advocate for traditional methods of learning. Rousseau emphasized that students learn best when they have experiences and can discover information/skills for themselves. He believed that children should be taught a subject in a way that the child truly understands as opposed to memorizing; this method he believed to be an effective way of teaching individuals to learn. Similarly, Dewey believed that students learned best by doing. His democratic humanism theory stressed that vocational education could benefit all students, not just the students who were not academically inclined.

The ideas and theories presented here as the conceptual framework are explained in more detail in Section 2. They also served as the foundation for understanding the ideas that influenced decisions I anticipated making in the field as I collected and

analyzed data. Those methods are explained in detail in Section 3.

Definition of Terms

Regardless of the research approach (i.e., qualitative, quantitative, or mixed method), it is important to define terms used throughout the study that are indigenous to the respective field of work. Such terms are often defined in several ways; however, Creswell (2009), as well as Locke, Silverman, and Spirduso (2007), suggested the following guidelines:

- Present definitions at a specific operational or applied level and in specific language rather than abstract verbiage.

- Use accepted language found within related research, grounding the terms in published literature.

- Present industry-specific terms within a separate section of the research documentation entitled Definition of Terms and clearly highlight the text of each term defined.

The following terms are defined for purposes of the study:

At-risk: Students or youth in jeopardy of failing academically due to factors such as poverty, family dynamics, language background, and ethnicity (Johnson & Perkins, 2009).

Apprenticeship: A work agreement where one person works for another for a certain period of time in exchange to learn a certain trade or skill (Tillman & Tillman, 2008).

Background characteristics: Refers to factors such as low socioeconomic status, physical challenges, emotional challenges, cultural/language barriers, and low academic

grades (Bulger & Watson, 2006).

Career and technical education (CTE): CTE programs "provide students with the opportunity to learn academic and technical skills, explore different career options, and to discover ways to balance life and work roles" ("All About Lifetime," 2002, p. 11). Such programs attempt to prepare students for the workplace and college/technical schools (Brewer, 2004). CTE programs originated during the 19th century under the label of *vocational education* (Castellano, Stringfield, Stone, & Lewis, 2002). The search for workers who are vocationally and academically skilled resulted in a shift to CTE in the name of this type of program.

Internal characteristics: Refers to a weak self-concept and/or unrealistic goals (Bulger & Watson, 2006).

Remediation: Additional instruction for students not demonstrating competency in the basic skills of reading, writing, and math at an expected rate (Vaughn, 2006).

Retention: The instructional practice of having a student repeat a grade level due to low academic performance (Vaughn, 2006).

Substandard basic skills: Demonstrated with the inability to read, write, or compute at levels necessary to perform within the workplace (Vaughn, 2006).

Assumptions, Delimitations, Limitations, and Scope

Through this study, I sought to gain insight surrounding the experiences of students at risk for educational failure. There were no assumptions developed for this study. Limitations were that the study was contextually bound and therefore, not generalized. So a rich, thick description of the study was be made in order that the reader can determine if some or all of the findings can be reasonably applied to their context. In

addition, the study was limited by context, participants, time, scope, why, and how. The

study was conducted at a vocational technology high school focused solely on secondary

students enrolled in a CTE program who were considered at risk of educational failure.

The study occurred during half of the 2011-2012 school year and focused on the

experiences of these students. Data were collected from nine purposefully selected

students through the use of the interpretative data analysis. The research was explained

to parents in an effort to gain their permission. Member checking of the data collected

was incorporated to ensure the accuracy of all reporting and to address the potential

limitation of researcher bias. The purpose of the study and the students' right to

discontinue participation at any time was also clearly communicated to all potential

student participants via the information that was included in the consent forms.

<div align="center">**Significance of the Study**</div>

The study provides education stakeholders with knowledge aiding the effective

placement of students at risk for educational failure. The effect of CTE programs on this

student population was an area of concern within the United States and school systems in

many other countries. As advanced by Dunn and Dunn (2008), "students at risk are a

serious international problem that has not been solved" (p. 89). For instance, within

Korea, the jobless rate among youth was disproportionately high. Korean educators

believed the problem would become obsolete if students at-risk for educational failure

were enrolled in CTE programs (Bae & Song, 2006). Awareness of the need for more

CTE programs contributed to the success of this student population.

Driscoll (2005) suggested that "the loss of CTE programs could lead to the

elimination of educational opportunities for at-risk students" (p. 6). The study held a

strong potential for social change. It provided school administrators and educators with an in-depth understanding of the role CTE programs can play in educating students at risk for educational failure toward successful futures. This, in turn, provided an alternative intervention that promoted effective instructional decisions enabling all students to learn. According to Drage (2009), "CTE can be instrumental in closing the competitiveness gap by adopting a proactive approach to curriculum development as opposed to the traditional reactive approach" (p. 34). The study highlighted the link between CTE programs and the academic, emotional, and social development of students considered at risk for educational failure. An extensive literature review provided an in-depth examination toward this end.

Summary

This section presented an introduction to the study, an explanation of the issue being investigated, and the purpose of the study. The qualitative case study approach was described and the assumption, delimitations, limitations, and scope were presented. Also, essential terms used in this study were operationally defined and the significance of the study was discussed. The next section included a review of the literature that focused on career and technical education programs and at-risk students. Section 3 conveys the methods and procedures utilized for this investigation as well as the description of the case study approach, how participants were selected, and specific techniques used to collect and analyze the data. Sections 4 and 5 respectively focused on the results of this study and analysis and interpretations of findings, implications for social change, and recommendations for future research.

Section 2: Literature Review

Overview

This review of related literature pertains to the topic of career and technical education (CTE) and the subtopic of at-risk students. A search was conducted for relevant studies and other types of literature within various public and private libraries such as the Library of Congress, as well as other electronic databases such as the Google search engine, Google Books, Google Scholar, and the Walden University library. Due to a scarcity of literature documented in the United States regarding the effectiveness of CTE programs, I also reviewed and referenced information about this issue in countries outside of the U.S.

Keyword and phrases used in the search were *career and technical education* and *at-risk students*(meta analysis and research synthesis), *history of CTE programs*, *at-riskstudents*, *CTE*, *vocational programs*, *vocational education and training*, *vocationaleducation* and *at-risk students*, *vocational education and benefits*, and s*econdaryvocational education*, *at-risk students*, and *apprenticeship*. The review is organized by the following categories: CTE programs, at-risk students, and CTE program and at-risk students. The research method selected for the study is also addressed in this literature review. In addition, the history of CTE, secondary education, benefits of CTE, CTE and at-risk students, and conceptual themes are discussed.

Career and Technical Education

History

 Whether the focus of schooling should be academic, vocational, or mixed is an ongoing discussion in the United States, Australia, Korea, Switzerland, New Zealand

France, Germany, and other countries (Wallenborn & Heyneman, 2009). These countries aim to facilitate youth development through mandatory schooling until ninth grade and upper secondary general education or vocational education and training (Meyer, 2009). To understand CTE programs, education stakeholders must understand the concepts grounding these programs and their relationship to education. CTE programs are developed to help students align educational and occupational goals (Ryken, 2006). CTE can prepare students for college and work (Dare, 2006).

This type of early education began as vocational education with a focus on the family and it took place in the church. These earliest vocational programs were grounded in the need to prepare children of blue collar workers with practical skills for farms, factories, and homes (Lynch, 2000). Similarly, according to Plank, Deluca, and Estacion (2008), most vocational educational programs were developed to prepare students for labor and assist them in entering the workplace after high school. Children's educational needs were addressed in this manner until the beginning of apprenticeship programs (Tillman & Tillman, 2008). These types of programs were developed for families who wanted their children to learn a skill to help the family in some way.

During the 1980s, CTE emerged in place of vocational education and reflected the new skills students needed to thrive within the new economy (Little Hoover Commission, 2007). On September 25, 1990, the Carl D. Perkins Vocational and Applied Technology Act was signed into law (Levesque, 2008). Congress developed a template for CTE that focused on three approaches: (a) the integration of academic and vocational education, (b) communication between the segments of education engaged in workforce preparation, and (c) closer links between school and work. During the early 1900s, vocational

education, as it was known at that time, increased with the industrialization of the U.S. economy.

Secondary Education

There is an ongoing debate as to whether CTE programs should be integrated in secondary education. Vocational education has a long history in American public secondary schools as well as in countries outside of the U.S. (Karmel, 2007). Secondary education has become more important in education reforms globally (Wallenborn & Heyneman, 2009). Vocational education and training (VET) has been an integral part of the Australian school system for many years (Karmel, 2007). VET also became an important pathway to work for many Australian youth (Woods, 2008). These programs facilitate a smooth transition from school to work or further study for early school leavers (Anlezark, 2006). Similarly, VET plays a major role in the Swiss educational system (Meyer, 2009).

These programs have been a major contributing factor in the educational programs for numerous secondary school students of whom pursued career-oriented education (Vlaardingerbroek & El-Masri, 2007). In China, VET is a significant element of the modern education system. The aim of China's vocational education curriculum is to provide career-oriented services, including at the secondary level. National and local professionals continue to discuss how CTE can help educators and policy makers decrease the number of students at risk for leaving high school prior to graduation or graduating without the skills, knowledge, work habits, and attitudes necessary to succeed as postsecondary students, workers, or U.S. citizens.

Over the years, CTE programs among secondary students continued to evolve

(Castellano, Harrison, & Schneider, 2008). As noted by Meer (2007), vocational schooling is an effective route to providing national labor skills.As an appropriate educational alternative for high school students with low academic abilities, vocational schooling is also a framework for enhancing the lives of unemployed youth and students with special needs. Vocational education training starts at the lower level secondary level in Nigeria where students are exposed to various vocational areas such as business studies and introduction to technology. VET is an essential part in the secondary schools with preparing the children for specific occupations (Bello, Danjuma, & Adamu, 2007).

Career technical educational programs can help high school students explore career options, remain engaged in school, gain skills that are broadly useful in the labor market, and prepare for further study in postsecondary education (Hudson & Laird, 2009). CTE is an important segment of the high school enterprise and its traditional role as a track for those not bound for college equates to a large proportion of the students enrolled in CTE programs who need the most support to achieve at high levels (Kazis, 2005). The CTE program provides high school students with the opportunity to participate in courses with a vocational focus. The work aspect of CTE can enable school systems to produce a more educated citizenry as well as provide an educational option outside of the *home* schools as a means to improve high school students' performance (Rouse & Kemple, 2009).

CTE programs offer hands-on courses that relate to career goals and have been found to reduce premature departure from school, which is a common outcome among the at-risk population under study (Emeagwali, 2008). The goal of every American high school should be to prepare students for full participation in a spectrum of college

opportunities, substantial work, career advancement, and active citizenship (Bray, 2006). Career and technology education programs are an important component in the secondary education. It can provide tremendous opportunities for students of various abilities to gain the necessary skills to facilitate educational success as well as lifelong success as productive citizens.

Benefits of CTE

Frequently, schools are being populated by students who are deemed at risk and CTE has had a profound impact in saving the youth who are lost (Brewer, 2006; Foley & Pang, 2006; Sloat, Audas, &Williams, 2007). Determining how to teach and engage this population is an ongoing discussion. CTE has the potential to address all pathways for students and maximize choice for all students (Camuti, 2008). A resurgence of interest in CTE increased among business leaders, policy makers, and educators due to the fact that the traditional education pathway of a 4-year college immediately following high school may be inappropriate for the majority of students (Guy, Sitlington, Larsen, & Fran, 2009). Approximately 25% of all high school students have a focused area within CTE (Levesque, Wun, & Green, 2010). CTE has the potential to provide students with the exposure they need to future career opportunities and technical skills at a time when it is critical to get students interested in science, technology, engineering, and math (Drage, 2009).

The benefits of CTE programs for students at risk for educational failure are experience-based learning opportunities (Cavazos, 1991) and the ability to engage and retain students throughout high school (Chadd, 2006; Drage, 2009). According to Schargel and Smink (2001), other benefits are enhanced student motivation and academic

achievement, increased personal and social competence related to work, increased understanding of an occupation or industry, and increased acquisition of knowledge or skills related to employment. CTE provides students the experience they need to succeed through a combination of classroom instruction, hands-on learning, and job training (Association for CTE, 2009). In addition, CTE programs promote a sense of self-efficacy, a heightened sense of career awareness, and a higher level of college participation (Kosine & Lewis, 2008). These areas are related to the academic achievement of at-risk students and it is these areas that highly affect this population (Ray & Elliott, 2006; Walker, 2010). CTE provides students with the opportunity to explore interests that exist outside the traditional academic subject areas found in most high schools (Gentry, Peters, & Mann, 2007).

Career and technical education is evolving and bringing meaning to the classroom that is sensible and understandable for students. It is bringing the relationships between subject, content, and careers into the classroom as well as increasing multiple levels of learning (Berns & Erickson, 2001). Lynch (2000) viewed CTE as (a)preparing students with the education and technical skills they will need for successful employment; (b) teaching them all aspects of an industry; (c) enhancing academics by bringing a real-world context and application to education; (d) teaching students to apply high-level math, science, technology, and language skills within the workplace and local community; (e) preparing high school students for college; and (f) preparing students with the academic foundation to be lifelong learners. According to Herzek (2008), "It is understood that connecting academic studies to something a youngster enjoy[s], or something they [can] relate to and/or physically touch, could positively impact their

academic achievement" (p. 62). CTE programs are a route that can enrich students' lives with the motivation and real life education needed to be successful, employed productive citizens. It is a way to engage students of all academic abilities and backgrounds.

Perspectives About CTE

The various opinions regarding the impact of CTE on students can have a positive or negative effect on the worthiness of these programs on students educationally. In earlier years, CTE had a negative connotation and was only viewed as being appropriate for students who were not contemplating attending college. However, presently many high schools offer CTE with advanced skills to help students make the transition to postsecondary education (Dare, 2006). Students, educational stakeholders, and parents' perspectives of these programs are important and can deeply affect CTE programs. Their feedback and opinions can influence or encourage the education department's decision to continue funding these programs. CTE programs have been viewed as a second class education for low achieving and noncollege bound students, despite the evidence of the multiple benefits that these programs offer(Bae, Gray, &Yeager, 2007; Sun, 2010). Overall, the public's lack of understanding about CTE programs can be attributed to the multiple paths that led to vague labeling of this type of educational option (Shields& Harris, 2007).

Student perceptions. The optimal method of measuring the effectiveness or worthiness of CTE programs is through student feedback. The image of CTE in the U.S. has been blemished from past views suggesting CTE offers a lower quality education for the lowest level students (Gaunt & Palmer, 2007). Gaunt and Palmer (2007) conducted a study within the state of Michigan involving 126 CTE students at a career technical

center. A survey captured the perceptions of the student sample. Approximately 38% of the participating students viewed these programs as designed for students struggling academically, while the remaining 62% perceived the program as intended for students of all performance levels. All of the students viewed the CTE program as beneficial for students planning to enter the workforce immediately after high school (Gaunt & Palmer, 2007, p. 45).

In a study by Cavanagh (2005), students viewed CTE programs as a way to learn and create connections between the classroom and the real world and as offering educational benefits over traditional high schools. Also in a study that was conducted by various researchers in different portions of Australia, common feedback from 10th and 12th graders regarding VET was that it is a route to a "head start" to the adult world. It provided qualifications and vocational experiences these classes were viewed as engaging and exciting (Trim, Alloway, &Walker, 2008). Similarly, in Germany, many students viewed technical programs as being more lucrative than obtaining a college degree (Barabasch, 2006; Glaesser, 2006).

Public perceptions. General public and policy makers tend to have a negative image of CTE programs, believing they lack rigor, lead to low-paying jobs, serve only low-performing students, andare a dumping ground for unmotivated students (Shields&Harris, 2007). Research has proven that, because of its real-world approach, CTE is effective for students at risk for educational failure. To understand CTE and its value, perceptions must be changed. "Students and parents lack awareness of the caliber of technical programs" (Nikirk, 2007, p.19). Current thinking does not reflect the reality of the global economy or contemporary education. CTE is a strategy that can be

effectively used to increase student engagement and high school attendance, as well as to supplement and enhance academic learning, develop applied skills, and gain new and necessary skills. Many CTE programs integrate goals that can enhance literacy skills and enable students to be literate in their future careers (Reese, 2010).

Regardless of CTE's previous reputation as a less rigorous track, research has demonstrated that career technical education engages and inspires students by providing them with real-world learning opportunities (NGA, 2007). All education stakeholders, as well as the general public, must be informed about the benefits CTE programs offer students (Herzek, 2008). The program teaches students how to apply their knowledge and understand how that knowledge is properly used in context. Through these programs, students are able to understand the connection between academic and occupational skills. "Career and technical education is an integral part of secondary and post secondary public education and it is designed to educate about, through, and for career"(Rojewski, Asunda, &Kim, 2008, p.57).CTE programs in the educational system can enable students to learn and gain skills that can prepare them effectively for their career of interest.

At-Risk Students

Frequently, educational staff is requested to assist at-risk youth in schools (Franklin, Streeter, Kim, &Tripodi, 2007). To clearly understand the population under study, the term *at-risk* must be properly described. Its common use was introduced in the report entitled *A Nation at Risk* (as cited in Vaughn, 2006). This groundbreaking report discussed the large number of students in jeopardy of leaving school without the skills needed to productively contribute to U.S. competition within the world market. The complexity of this scenario involved a description of various subcategories of students

(Sagor & Cox, 2004). Slavin, Karweit, and Madden (1989) classified at-risk students

into four categories: remediation, retention, dropping out, and substandard basic skills.

These areas are the common categories of students considered at risk for educational

failure. Johnson and Perkins (2009) defined the term at risk as "students who could

potentially drop out of school or engage in self-destructive behaviors that interfere with

academic success" (p. 1). Likewise, Beken, Williams, Combs, and Slate (2009) defined

the term as students who are likely to drop out of school because of undesirable

educational experiences such as low academic achievement, poor school attendance, or

grade retention. Sagor and Cox (2004) defined the term as "any child who is unlikely to

graduate, on schedule, with both the skills and self-esteem necessary to exercise

meaningful options in the areas of work, leisure, culture, civic affairs, and inter/intra

personal relationships" (p. 1). This definition addresses the most prevalent challenges of

the contemporary teacher. Research has shown that the learning styles of failing students

also contribute to their at risk status (Sagor& Cox, 2004).

     Hanson and Silver (1991) indicated the learning preferences of students at risk for

educational failure can be categorized using the Jung system's of classification. This

system is based upon two dimensions of thinking: perception (i.e., sensing and intuition)

and judgment (i.e., thinking and feeling). There are four learning styles: sensing-

thinking, sensing-feeling, intuitive- thinking, and intuitive-feeling. Because traditional

schooling emphasizes instruction catering to the sensing-thinking and intuitive-thinking

styles of learning, the feeling groups of learners are neglected, and it is these categories

that are comprised of at-risk students. Emphasis must be placed on feeling, because

reaching high-risk learners involves a path through feelings, which focus specifically on

aspects of communication and relationship (Hanson& Silver, 1991).

Honigsfield and Dunn (2009) suggested that at risk secondary students respond to tactual-kinesthetic learning strategies. Their research revealed that this population of students responds well to this type of learning; their achievement and motivation increases. Tactual and kinesthetic appear to be the strongest perceptual modalities for this population. For many youth at risk for educational failure, the motivation to learn is grounded in immediacy and is pertinent to the personal value system of the student (Hanson & Silver, 1991). Some characteristics of sensing-feeling students are subjective awareness, concern over interpersonal relationships, and the meaning assigned to group belonging. As educators, it is imperative that all students experience a sense of belonging in the educational environment. The feeling of not being connected to the teachers and other educational staff in the school building can possibly contribute to this population's academic failure (Faulkner, Adlaf, &Irving, 2009). For high-risk students, kindergarten through the fourth grade tends to be a successful period with the concentration on socialization and the environment, which allows creative activities such as song, dance, and drawing. However, leveling fifth grade the emphasis often shifts from group work and helping others to independent classroom work tasks. This also represents a shift from feeling to thinking. The sensing-feeling individual does not typically compensate for personal strengths to the extent needed to function productively. Learning styles are emphasized in the new curriculum. Unfortunately, as this at-risk population enters higher grades levels, increasingly stronger focus is placed on passing grades, independent work, and less feeling activities. Consequently, the sensing-feeling student often begins to act out, compensating for the lack of academic success.

Although sensing-feeling students are more focused on socialization, helping others, and creativity, intuitive-feeling students exhibit greater concern with various ways of performing tasks (Hanson& Silver, 1991). According to Hanson and Silver (1991), "They are not at risk academically, but rather are at risk because the school is not challenging them" (p. 33). These students typically perform the necessary academic work but at the minimum level. They often feel alienated due to a profound learning style that is not well received or reflected in traditional classrooms. These researchers suggested teachers must place greater emphasis on feeling to reach high-risk learners. To address the needs of these students is to address the individual need for self-knowledge and encourage a process of self-discovery (Hanson & Silver, 1991). According to Dunn and Dunn (2008), each student must be taught according to their learning strengths. Similarly, Ferry (2005) noted, "Troubled learners require non-traditional instruction" (p. 1). Regardless of student or learning-style obstacles, the mission of educators is "to teach our students, whatever their learning styles . . . how to succeed" (Hanson & Silver, 1991, p. 6). Having at-risk students enrolled in these programs can possibly deter them from feeling worthless. There appears to be a necessity that this population is enrolled in classes that are applicable to their future careers.

CTE and At-Risk Students

While existing research on the impact of CTE is limited, a few studies have found CTE to have positive effects with students at risk for educational failure. Stern et al. (2000) examined 10 students enrolled in career programs and found lower dropout out rates than reported for students enrolled in traditional education. Maxwell and Rubin (2000), as well as Brown (2000), revealed that the percentage of students at risk of

premature departure from school decreased when enrolled in a CTE program. CTE programs present an opportunity for these students to become active citizens of both global and local economies. These programs seem to be a way to promote success among these students educationally, emotionally, and socially.

<div align="center">**Review of Conceptual Framework and Methods**</div>

This section explores and analyze the literature on the conceptual framework which anchors the study by emphasizing the potential themes/perceptions that the explored. Also, this section provides the rationale that supports the method used for this research.

Conceptual Themes

This research study was grounded in the conceptual framework of the following theories: career and development, democratic humanism, and human development theory in the context of career and technical education, formerly known as vocation technical education. The design that was executed was the constructivist paradigm. In the research, career and technical education means a route of education that attempts to prepare youth for the workplace and college/technical schools (Brewer, 2004). CTE has been in existence since the early 1900s but due to the change of economy and increased jobs involving technology, vocation technical education increased (Little Hoover Commission, 2007). However, Pestalozzi's (McKenna, 2010), Dewey's (Schmidt, 2010), and Rousseau's (Gilead, 2012) theories regarding at-risk students are not represented in the literature to focus and interpret at risk secondary students in that perspective. Areas the research explored include perceptions of how the traditional classroom integrates hands-on learning with various content subjects? What reasons persuaded you to enroll in

a CTE program while attending high school? How do CTE programs educate you? How is it preparing you to become a well educated citizen/adult? What can be done to integrate more CTE programs in the *home* high school?

Review of Methods

This case study was grounded in the qualitative tradition. According to Creswell (2003), "this [qualitative] research enables the researcher to develop a level of detail about the individual or place to be highly involved in actual experiences of the participants" (p.18). The case study approach was optimal for the research due to the sole focus on the CTE programs and secondary students at risk for educational failure. The case study method enabled a significant contribution to the existing base of knowledge surrounding CTE programs. Other qualitative research approaches were considered for the study such as ethnography, phenomenology, and ground theory. Ethnography was eliminated as an option because the ethnographic approach is grounded in the field of anthropology while "focus[ing] on study of an entire culture or [the] *culture* of a business or defined group" (Trochim, 2006, p.1). Ethnography is centered in human behavior and the ways in which individuals construct and make meaning of their lives (LeCompte & Schensul, 1999); therefore, this approach was dismissed. Phenomenology "focuses on the essence or structure of an experience" (Merriam & Associates, 2002, p. 7) and because "phenomenologist[s] want to understand how the world appears other[s]" (Trochim, 2006, p.1); this approach was not selected. Grounded theory was considered because it is rooted in observation; however, the study involves analysis of a particular group, hence this approach was also rejected. I conducted an in-depth investigation of a particular program, which reflects a*bounded* study. With the

goal of analyzing the impact of CTE programs on the development of secondary students at risk for educational failure, the case study approach was ideal.

The link between CTE programs and the success of students at risk for educational failure is a topic of ongoing debate. Vocational education as CTE's former name has been deemed as the premier educational delivery system globally (Elliot, 2007). While CTE is the new term utilized in the United States, vocational education and training is the popular term utilized outside of the Unite States (Lakes, 2008). CTE has been viewed as contributing to a decrease in students prematurely leaving school prior to graduation (Stone & Alfeld, 2008). The interests and needs of this high-risk population require innovative and unique means of education unrelated to the traditional school structure. As noted by Stringfield and Land (1995), an emerging consensus seems to be that a combination of providing students with an opportunity to learn school subject[s] with work as the context of their learning [and an] opportunity to learn how to develop interpersonal skills [and] acquire and use information, yields positive results (p. 265).

An important element of education is technical; it involves creating and changing physical things (Roodhouse, 2008). Policymakers, educators, and researchers must ensure that appropriate programs, such as CTE, are considered in order to promote successful lifelong learners. CTE programs can provide opportunities for students to increase their sense of self-worth by engaging them in unique ways of learning that stretch beyond the traditional classroom (Brown, 2003). The study provided deeper insight into the manner in which CTE programs affect the academic achievement and emotional and social development of secondary students at risk for educational failure.

Qualitative Case Study

In this study, I utilized interviews, observation, and field notes to develop necessary evidence. The methodology used for this study was not similar to any of the dissertation reviewed. The majority of research designs reviewed in this literature implemented the quantitative approach using surveys and questionnaires. These studies ranged from the focus to being on the secondary principals and high school teachers' perception on the effectiveness of CTE programs to the vocational needs of youths in Nigeria. In contrast, this study involved a qualitative case study design. The qualitative approach enabled me to develop a level of information about the individual or place as well being involved in actual experiences of the participants (Creswell, 2003). Because various at-risk students were examined via interviews and observations, this approach allowed an in-depth investigation of the experiences of this population.

This qualitative case study focused on CTE programs and its effect on secondary at-risk students for educational failure and their perspectives. This design enabled a significant contribution to the existing base of knowledge surrounding CTE programs.

Discussion, Analysis, and Conclusion

A thorough exploration of the literature conveyed that the literature provides a detailed overview as it pertains to issues involving CTE programs and its impact on secondary at-risk students in jeopardy of educational failure. CTE programs takes place in the context of educational reforms. The discussion over CTE programs being an appropriate placement or the solution for the youth at risk for educational failure seem to be ongoing. Integrating career and technical education is known for its hands-on learning approach, which was advocated by Pestalozzi, Dewey, and Rousseau. It emphasizes the

utilization of all five senses. Their theories stress that this type of learning approach is lacking in traditional school settings. It appears that this type of teaching is linked to the preference of at-risk students. According to Carl Jung and his system of classification, there are two dimensions of thinking: perception which emphasizes sensing and intuition and judgment which emphasize thinking and feeling. These dimensions include the four types of learning styles: sensing-thinking, sensing-feeling, intuitive thinking, and intuitive feeling. Based on Jungian research, the *feeling* group of learners seem to be neglected in traditional school setting, which comprises the population being studied. At-risk students respond positively to tactual kinesthetic learning (Hongisfield & Dunn, 2009), which involves a path through feelings that concentrate on communication and building relationships with these students. Information about the affect CTE programs have on at-risk students is missing from the literature. This research filled that gap with a case study analysis of secondary at-risk students enrolled in CTE programs in vocational schools. The research was grounded in the qualitative paradigm because the study involved an in-depth investigation of a phenomenon.

Section 3 will convey a detailed discussion of the methods and procedures utilized for this investigation. It will also include the description of the case study approach. This section will include a discussion of the qualitative research, context of the study, measures for ethical protection, role of the researcher, criteria for selecting participants, data collection, data analysis, and trustworthiness of the research and findings.

Section 3: Research Method

Introduction

The research problem for this study will address the issue of the extent to which CTE programs affected at-risk students individually. After reviewing many research methods for the study, the case study approach was selected. The purpose of this study was to gain an understanding of the experiences of students at risk for educational failure who were enrolled in a CTE program. The qualitative case study design was appropriate because it explained a phenomenon within the context of a case (Stake, 2005; Yin, 2009). This section is organized into the following categories: qualitative research, research design, research question and context of the study, measures for ethical protection, role of the researcher, criteria for participant selection, data collection and data analysis. Trustworthiness of the study is also addressed in this section.

Qualitative Research

Qualitative research often involves a description of the target population to increase understanding of the people, their situation, experiences, and meanings prior to the development of theory (Frankel & Devers, 2000). The collection of qualitative data is a common activity within the fields of social sciences, history, and anthropology; however, an increasing number of investigators within education research, public administration, and other fields have transitioned to this paradigm (Miles & Huberman, 1994). Conversely, quantitative research employs deductive logic, relying heavily upon prior knowledge to develop specific situations. Qualitative research stresses the importance of observation from within the natural setting and collecting detailed data via direct questioning and the review of existing research documentation. Qualitative

methods are considered the oldest of all scientific techniques (Shuttleworth, 2008) and the most flexible of the models. Qualitative techniques are extremely useful with topics precluding *yes* or *no* responses. They are not as dependent upon sample size as quantitative methods are; case study can yield meaningful results with a small study group. Unlike quantitative research, data are gathered via objective methods to provide comparisons, relationships, and predictions (Key, 1997).

According to Miles and Huberman (1994), "Data from qualitative studies provide a rich, description of precise events; it offers a quality of *undeniability*" (p. 1). It is iterative rather than linear. The words of participants have concrete meanings and are often more convincing than pages of numbers. Qualitative research is "a generic term for investigation methodologies described as ethnographic, naturalistic, anthropological, field or participant observer research" (Key, 1997, p. 1). As noted earlier, various qualitative research designs have been developed including basic interpretive, phenomenology, grounded theory, ethnography, and case study (Merriam & Associates, 2002). These and other types of qualitative research approaches are similar to other approaches in terms of the desire or goal to search for meaning and understanding. The researcher is the primary instrument of data collection and analysis and seeks to deliver a rich, descriptive product.

According to Key (1997), as well as Miles and Huberman (1994), numerous recurring features characterize qualitative research. These features include the following:

1. Purpose, which seeks to understand individual interpretations.

2. Reality, which is a dynamic that changes with changes in perceptions.

3. Viewpoint, which is perceived reality.

4. Values, which must be understood and considered when conducting and

reporting research.

5. Focus, which is when a holistic view is sought.

6. Orientation, which evolves through the development of theories and hypotheses emerging from collected data.

7. Data, which are the perceptions of the population sample.

8. Instrumentation, which is the human person as the primary collection instrument.

9. Conditions, which are the natural conditions under which an investigation is conducted.

10. Results, which are the findings drawn from a focus on research design and procedures from which to collect rich, in-depth data.

11. Observation, which is conducted through an intense prolonged period of fieldwork.

Unlike qualitative research, quantitative researcher is based upon quantifying relationships between variables such as weight, performance, time, and treatment (Hopkins, 2008). A qualitative approach was selected for the study due to the "need to explore a problem or issue" (Creswell, 2007, p. 39).

Research Design

Stake (2005), Simons (1980), and Yin (2009) articulated that the case study investigates a phenomenon within its real-life context. An advantage of this method is involvement of various sources of data (Key, 1997, p. 2). Data collection tools, such as surveys, interviews, document review, observation, and artifacts, are common to the case-study design. Case study was frequently conducted within the social-sciences discipline

and has gained popularity within the realm of education and, in particular, education evaluation (Stake, 1995). Its premise rests on increasing understanding surrounding a complex issue or adding strength to what is already known through existing research (Key, 1997).

As noted earlier, the purpose of the case study was to gain an understanding of the experiences of students at risk for educational failure who were enrolled in a CTE program. Consequently, it was bounded by the focus on a specific school and population; hence, the casestudy approach was an optimal design. Other qualitative research approaches were considered for the study, including ethnography, phenomenology, and grounded theory. Ethnography was eliminated because it is a strategy of inquiry focusing on a cultural group within a natural setting over a long period of time (Creswell, 2009). The term *ethnography* is defined as a *portrait of a people* and the method is applied in studies of cultures and other subgroups of people (Hancock, 2002, p. 4).

Phenomenology is best applied to the study of the essence of a phenomenon from the perceptions of a sample of individuals who lived the experience under study (Lester, 1999); although this was involved in my study, it did not focus on the phenomenon; hence, it was not chosen as a research method for this study. Grounded theory was considered because it is rooted in observation; however, because it involves creation of new theory, which was not the goal of this study, it was also rejected. I conducted an in-depth investigation of a particular program, which reflected a bounded study (Merriam & Associates, 2002). With the goal of understanding and exploring experiences related to at-risk students' who were enrolled in a CTE program, the case-study approach was ideal.

Research Question

The research was guided by the following research question: What are the experiences of students at risk for educational failure who are enrolled in a CTE program?

Context of the Study

The vocational school, which was the site for this study, is a public, career technical high school that has 1000 students enrolled in programs that serves ninth through 12th grade level students. It is located in an urban area. This school houses 19 various career and technology education programs in six areas of interest. They are: (a) arts, humanities, media, and communication; (b) bioscience, health, sciences, and medicine; (c) human and consumer services, hospitality, and tourism; (d) information technologies; (e) construction and development; and (f) transportation, distribution, and logistics. Students attend this school every day for 8periods from 7:25-3:10. They can earn 1.5 credits per semester. Students are accepted in this school through the city-wide application process. The student-teacher ratio is 14:1.

Measures for Ethical Protection

According to Hatch (2002), "Qualitative researchers doing research in education contexts have special responsibilities when the participants in their studies are students and teachers" (p. 67). The participants are the cornerstone of any study; therefore, ensuring that ethical boundaries are maintained is critical. To adhere to this, the following three mandatory steps were initiated:

1. Obtained letter of cooperation from school where study was conducted.

2. Submitted IRB application, along with parental consent form and student form.

Obtained IRB approval.

3. Began data collection in accordance with IRB application and approval

(approval #10-19-11-0042190).

To uphold participants' rights, parents were provided with informed-consent

forms that detailed those rights and documented the purpose and goals of the study. A

letter of cooperation was given to the principal at the vocational school to gain access to

the selected students for the study. The manner in which the data collected was reported

and the confidential nature of all such data was also clarified. The data were protected by

assigning initials that corresponded to each student for use with any study material

requiring identification. Once parental consent forms were received, each

parent/guardian received a copy of their respective consent form along with a description

of the research study. As many of the student participants were under the age of 18, I

made arrangements to meet with them individually to gain their agreement and

cooperation to participate in study. I distributed student assent forms to be signed. A

copy was also attached to the IRB application filed with Walden University. To extend

appreciation and gratitude for their participation, I provided healthy snacks during the

interview sessions and distributed thank you notes to the students and their parents at the

end of the research study.

Role of the Researcher

I am a certified special-education teacher within a secondary school serving a

diverse student population from various socioeconomic and academic backgrounds. I did

not have any supervisory responsibilities over the participants. Consequently, I have

observed the numerous challenges that secondary teachers and school administrators

experienced while interacting with students at risk for educational failure within a traditional school setting and witnessed the students' challenges and frustrations as well. At-risk students seem to do well in the learning environment presented by the CTE program. Therefore, I focused on exploring the effects these programs have on at-risk students. As my primary role was to serve as the instrument for data collection and my background put me in close proximity with the data, several measures were implemented to deal with the possibility of subjectivity. I maintained a high degree of professionalism and executed objectivity throughout the process. Toward this end, a research journal was maintained by the investigator for the documentation of any personal feelings, reflections, ideas, or emerging confusion (Hatch, 2002). The journal was also used to support field-note interpretation. Also, member checking and peer review were incorporated to ensure the accuracy and validity of participant responses. It was the hope that these measures minimized or eliminated researcher biases.

Rich, descriptive data were presented in the findings of the study, as opposed to statistical data. An aspect important to qualitative analysis is the ability to determine pertinent information during the observation and interview processes. Unexpected situations can emerge during data collection; therefore, the ability to make prompt decisions that will not hinder the progress of the study or the credibility/validity of data representation is crucial. Participating students were under 18 years of age and as such, consent forms were obtained from all parents/guardians.

Criteria for Selecting Participants

The study was conducted during the 2011-12 academic year and examined nine purposefully selected students from various areas of interest within the CTE program

offered by a vocational school. The number of participants was limited to 11 to gain in-depth information surrounding the topic under study.

Selection

Qualitative procedures are based upon textual and descriptive data (Creswell, 2003). All student participants met the following criteria:

1. Documentation existed of student categorization as at risk for educational failure due to low-socioeconomic status.

2. The students were unfamiliar to the researcher to promote more open communication and a free flow of information, as well as a reduction in the potential for researcher bias.

3. Students were representative of those participating in various areas of the CTE responses.

Table 1

Participants: Demographic Information

Student	Age	Grade	CTE Program	Free/Reduced Meals
N.C.	16	11th	Carpentry	Yes
S.B	17	11th	Culinary	Yes
D.L.	14	9th	Cosmetology	Yes
V.C.	14	9th	Cosmetology	Yes
A.C.	14	9th	Cosmetology	Yes
B.P.	14	9th	Cosmetology	Yes
P.W.	16	11th	Culinary	Yes
M.T.	17	12th	Culinary	Yes
A.B.	17	11th	Culinary	Yes

The initial step in participant selection was to determine which of the students enrolled in the vocational school had been deemed as demonstrating the designated at-risk behavior indicated within their school records. To facilitate this process, the principal of the vocational school was contacted and the purpose and goals of the study were explained. This established a rapport that facilitated access to the student population, as well as the site. A letter of cooperation was distributed to the principal for his records. I introduced myself to the selected participants and a one-on-one meeting was arranged with each student in a private location within the school to begin development of a positive researcher-participant relationship and to obtain signed student assent forms after receipt of signed parent consent forms for those students.

Data Collection

Data for the case study were collected through various methods: interviews and observations (Neale & Boyce, 2006). The following strategies for data collection were incorporated: (a) observations and (b) in-depth, individual interviews. These methods facilitated a positive relationship between the participating students and me, as well as the collection of data related to students' perceptions of the program under study and its influence in their development. Conducting observations, performing thorough interviews, and integrating detailed description promoted empathy for me when I described the perspectives of my participants (Patton, 2002). This is what I wanted to experience in this study.

Semi-structured interviews were conducted with each of the student participants. Because the goal of this study was to explore a phenomenon within its real-life context to gain a clearer understanding of a complex issue, interviewing was an appropriate collection strategy (Soy, 1996). An interview guide (see Appendix B) was used to present open-ended questions allowing individual variation in response, as well as an opportunity to answer with detailed feedback (Hoepfl, 1997). In-depth interviewing referred to intensive individual interviews exploring participant perspectives related to a particular idea, program, or situation (Boyce & Neale, 2006, p. 3). This type of interview enabled the study to glean a deep understanding of the perspectives of the sample population as they related to CTE programs. Direct quotations from the sample clarified their experiences, opinions, feelings, and knowledge. The interview questions and their order were modified, as necessary, based upon participant responses (Hatch, 2002). The individual interviews required a maximum of 45 minutes. The interview data were

collected after the normal school day so it did not interfere with students' learning time.
Interviews occurred within one-half hour after regular school hours while security
officers were still present in the building. Each interview was recorded using a digital
voice recorder. I transcribed each interview immediately following each session. To
ensure accuracy of the transcripts, the transcripts were reviewed with each respective
interviewee.

Participant observation (see Appendix A) was another data-collection strategy
used in the study. This led to a deeper understanding of the topic under study than
interviews alone. It also revealed aspects of which the participants may not be aware or
are unwilling to discuss (Patton, 1990). Observation involved student activities,
behavior, actions, conversation, and other interpersonal interaction (Patton, 2002). Once
signed consent forms were received from the parents who wished for their child to
participate in the study, (see Appendix B), each student participant was observed at the
participating vocational school for 45 minutes to 1 hour maximum twice per week,
Monday through Thursday for 5 weeks, for a total of 10 observations. Observations were
made during class time but did not interfere with the learning. Friday of each week was
allocated to a review of the observation notes, interview responses, and transcripts, as
well as to reflect on the progress of the study. Two follow-up meetings lasting no more
than 20 minutes were conducted as necessary to perform member check. These follow up
meetings were not audio taped.

Data Analysis

During data analysis, I reviewed raw data utilizing numerous interpretations in
order to find linkages between the research object and the results with references to the

initial research question (Key, 1997). Interpretative analysis enabled the researcher to give meaning to the data collected, as well as develop insights and understand a sense of the phenomenon being studied (Hatch, 2002). The data analysis techniques implemented in the study were strategies that can be effectively conveyed to others (Hatch, 2002). Interpretative data analysis was utilized for all methods of data collection.

Two strategies that were utilized during data analysis were memoing and coding. Memoing involved the documentation of thoughts related to the study as data were reviewed. This technique can develop ideas, control bias, and raise self-analytic questions, as well as facilitate a maintained focus on the data-analysis process. As described by Rubin and Babbie (2009), "The idea is to write memos to yourself when you have ideas and insights and to include those memos as additional data to be analyzed" (p. 3). Memoing is a strategy that corresponds with coding. It is "a qualitative data analysis technique used at several stages of data processing to capture code meanings, theoretical ideas, preliminary conclusions, and other thoughts that will be useful during analysis" (Rubin & Babbie, 2009, p. 307). As thoughts entered my mind throughout the study, I recorded these thoughts as notes in a notebook in order to determine if these thoughts were worthy of analysis.

The second strategy was coding. As noted by Creswell (2007), coding is a core aspect of qualitative data analysis. Maxwell (2005) stated, "The goal of coding in qualitative research is to fracture the data and rearrange them into categories that facilitate comparison between things in the same category that aid in the development of theoretical concepts" (p.96). Categorizing strategies will enable the development of themes and or patterns within the data. This process is typically performed during the

initial phase of data analysis (Holloway, 1997).

Trustworthiness

For purposes of the study, triangulation, member checking, and peer review were performed to ensure credibility and accuracy. Creswell (2003) described triangulation as the use of multiple sources and methods to explore evidence. With this literature considered, the observation and formal in-depth interviews were used to collect data in the study.

Member checking ensured validity in the study, which involved "taking data and interpretations and conclusions back for participants to check for accuracy" (Creswell, 2007, p. 208). Merriam and Associates (2002) emphasized, "Participants should be able to recognize their experience in your interpretation or suggest some fine-tuning to better capture their perspectives" (p. 26). I shared any interpretations, rough draft of themes, and data with participants to ensure the views were accurate and determine if any information was missing. Conducting a *good* qualitative study is dependent "on the validity and reliability of the ethics of the researcher" (Merriam & Associates, 2002, p. 29). Attention was given to the reliability and validity of all research methods (Morse, Barret, Mayan, Olson, & Spiers, 2002).

Peer debriefing was another method used in this study. This method involved an outside person asking me questions as it pertained to the methods and interpretations undertaken in the study. It was a way to facilitate researcher honesty (Creswell, 2007). Throughout the study, I communicated with an educational colleague who is familiar with my topic but who does not have a doctorate degree. We both maintained records of each meeting.

Verification strategies that ensure research rigor determine the trustworthiness of the data collected. Verification is "the process of checking, confirming, making sure, and being certain" (p. 9). In qualitative research, verification refers to the mechanisms applied during the process of the respective study to ensure reliability, validity, and rigor. Verification strategies help to determine when to continue, stop, or modify the research process.

Golafshani (2003) stated, "If the issues of reliability, validity, and trustworthiness can determine . . . a *good* from *bad* research then these elements are important in any paradigm" (p. 6). According to Mason and Bramble (1989), validity, also known as credibility, refers to "the degree to which a test measures what it is supposed to measure" (p. 200). Presenting information that is accurate and valid is what I wanted to produce and convey. Otherwise the study will be pointless and ineffective.

Presenting negative information that emerged in a study can add to validity. A crucial aspect is allowing for the examination of discrepant data. No research is a *self-fulfilling prophecy* (Maxwell, 2005, p. 126). Therefore, such information was included in the data reported in the study. According to Hatch (2002), "Searching for non examples of your patterns is a systematic measure that should be undertaken in any qualitative study" (p.157).

Ensuring consistency in qualitative research was equally as critical as validity. According to Joppe (2000), reliability is "the extent to which results are consistent over time" (p. 1). Toward this end, an audit trail was incorporated in the study. An audit trail is an account of how data were collected and a description of the overall research methods and decision making related to the respective study (Merriam & Associates,

2002). As noted by Merriam and Associates (2002), it is "a detailed account of how the study was conducted and how the data were analyzed" (p. 28). Such a trail also typically includes a description of the setting and events and activities that occur within that environment, as well as the rationale for the research. An audit trail provided a strong record of the details of the study and promoted validity. In order to implement this method, I maintained a record journal of reflections, questions, problems, or anything related to the data analysis of this study.

Verification strategies that ensure both reliability and validity were activities such as ensuring methodological coherence; sampling sufficiency; the development of a relationship between sampling, data collection, and analysis; theoretical thought; and theory development (Morse et al., 2002). Methodological coherence referred to congruence between components of the research questions and method. Qualitative study demands that the research questions match the method, which in turn matches the data and analytic procedures. Validity and reliability are two factors that qualitative researchers should be concerned about while developing, analyzing, and judging the effectiveness of the study (Patton, 2002). Modifications may become necessary to ensure that the various facets of the data meet the study goals and methodological assumptions. One method that can contribute to the validity and reliability of a study is triangulation. It can include various methods of data collection and data analysis, but it is not the sole solution for all researchers. According to Golafshani (2003), "the methods chosen in triangulation to test the validity and reliability of a study depend on the criterion of the research" (p.604).

Sampling must be appropriate with participants who best represent the target

population or possess knowledge related to the topic under study (Morse et al., 2002).

This will ensure a sufficient amount of quality data. According to Morse et al. (2002), "It

is this iterative interaction between data and analysis that is the essence of attaining

reliability and validity" (p. 12). Making certain that I selected participants who were

enrolled in CTE programs and who were considered at risk versus students who did not

meet this criteria determined the quality of data yielded in my study. This also impacted

the theories/patterns that I analyzed.

Theory development moves a small and focused perspective of the data to a large

conceptual understanding of the research. Morse et al. (2002) explained, "Valid theories

are well developed and informed. . . . They are comprehensive and consistent" (p. 13). To

think theoretically simply involves a confirmation and reconfirmation of ideas/thoughts

as they emerge. The checking and rechecking of ideas and/or theories must be verified to

build a foundation to the study.

Summary

As this section presented an overview of the qualitative research paradigm,

Section 4 includes the findings of this case study, the themes/patterns related to the

research question, and follow up questions. Section 5 conveys the interpretation of the

findings and implications for social change. Recommendations for further research are

also addressed in this section.

Section 4: Findings

The purpose of this qualitative case study was to gain an understanding of the experiences of at-risk students regarding their enrollment in CTE programs within vocational schools. This section includes the process of generating, gathering, and recording interview and observation data, the systems used for monitoring these data and emerging understandings, as well as the findings from the study. The study was guided by the following research question: What were the experiences of students at risk for educational failure who were enrolled in a CTE program?

Process for Generating, Gathering, and Recording Data

Participants for this study were purposefully selected from a list generated by the students' school administrator containing names and addresses of students who received free and/or reduced breakfast or lunch. Once the list was received and the cooperation letter was received, parental consent forms, student assent forms, along with a letter of invitation explaining the study were mailed to parents in a plain envelope. In addition, a self-addressed stamped return envelope was enclosed for parents to return signed forms to me. Due to a delay in responses from parents, phone numbers were obtained by the administrator in order to contact parents as a friendly reminder, explain the study, and obtain verbal permission to interview and observe their child. The parents were receptive and provided me verbal permission to interview and observe their children. Verbal permission was documented on communication logs. During the phone conversation with the parents, the invitation letter was read to them. They also and signed and returned consent forms.

During the initial contact with student participants, a description of the study was reviewed. At the meeting which took place after school in a conference room in the school's main office, each student was given an assent form to sign. Students were receptive to the idea of participating in the study; however not all of the participants agreed to be audio taped, so I manually documented their responses. Understandably, it was difficult to capture every word and essence of what they said. To ensure accuracy of responses told, I shared what I wrote with them to obtain any missing information. The students then told me any missing information from their responses and I added it. Using a semi-structured interview format, each participant was asked the initial statement of inquiry and then asked six follow up research questions (see Appendix B). The questions used during the interview were open-ended allowing each participant to provide as much information as they were comfortable sharing. Participants were asked follow-up questions for clarification purposes and for elaboration. After the interviews were conducted, I distributed the interview transcripts for students to review for accuracy and completeness in order to provide evidence of member checking.

Using an observation protocol (See Appendix A), I observed each participant in their vocational program. The observations lasted no more than 1 hour and at least 45 minutes. They occurred during class time but I did not initiate conversation with participants in order to not disrupt their learning. The observation field notes included information related to student activities, conversation, actions, interactions, curriculum, and communication.

Afterward, interview and observation data were categorized into meaningful units to develop themes that defined the essence of the experiences of the students. Key (1997)

referred to data analysis as the researcher reviewing raw data utilizing multiple

interpretations to find connections between the research object and the result with

references to the initial research question. Hatch (2002) said, "Data analysis is a

systematic search for meaning. It is a way to process qualitative data so that what has

been learned can be communicated to others" (p. 148).

Using an interpretative approach to analyzing the data, themes began to emerge

that identified various experiences of at-risk secondary students and their perspectives

concerning enrollment in CTE programs within the school. After examining the

interview and observation data, I consulted the peer debriefer. The peer debriefer

assisted with maintaining objectivity. He provided his feedback regarding any words that

were subjective. In addition, he provided clarity to my themes and the study.

The following themes and subcategorizes relative to the research study's follow-

up questions were developed: 1.*Wh*y *did you apply to this vocational school*? (a)

family/friends attended, (b) offered programs of interest, and (c) provided

certification/job security. 2. *Within which careerprogram have you enrolled*? There are

4 people enrolled in the Cosmetology and Culinary Program and 1 person enrolled in the

Carpentry program. In analyzing the data related to the third follow -up question, the

following themes emerged: 3.*What do you likebest/least about the CTE program?* (a)

hands-on, (b) graduate and get certification. 4. *If it were possible, would you want to*

attend the CTE program for the entire schoolday or would you have it remain the half

day it is now? *Why/Why not*? All of the participants communicated that they would keep

it the way that it is. They like that it is "like that because they are able to take their

academics, earn their credits to graduate, and learn a trade." In analyzing the data related

to the fifth follow-up question, the following themes emerged: 5. *How do you thinkyour participation in a CTE program has affected you…has it helped you?* (a) clear idea on what to major in college, (b) improve job skills, and (c) increase/enhance my skill of interest. 6. *Is there anything else you would like to add regarding this topic that I have not asked you*? Everyone commented with a 'no' response except N.C. She commented that, "Ideal School is a good school and I'm glad that I got accepted into Ideal." Of all the questions, 2, 4, and 6 did not yield any themes. The responses from those questions will be addressed under findings.

Participants

Each participant was receptive to participate in this study. One of the students was pregnant, a junior, and was to soon begin receiving home and hospital services due to her delivery date in late spring. Four participants were ninth graders, four were 11th graders, and one was a 12th grader. Detailed background information for each participant is presented next.

N.C. N.C. was an 11th grader at Ideal School (this is a pseudonym). She was enrolled in the carpentry vocational program; trade school was the term used at this site instead of vocational programs. She liked that it was a trade school and glad that she was accepted into Ideal School; however, her first choice was another vocational school but she was not accepted into this school. She was the only female in the class with approximately six males and they were friends. Also, N.C. communicated to me that she applied to Ideal School and received the highest test score in her class. She also enjoyed that her instructor made them participate in Habitat for Humanity.

P.W. P.W. was an 11th grader in the culinary trade program. She liked the

program although her first trade choice was cosmetology, but the enrollment was extremely high and there was no available space. P.W. was also pregnant and glad that she would be able to finish the school year before she was due to deliver her baby.

B.P. B.P. was a ninth grader in the cosmetology program. She liked her trade program and the hands-on-experience. B.P. felt as if cosmetology was the right program for her. She enjoyed learning about hair, nails, and working on the hair dolls. B.P. said, "It helps me because it gives me classroom and outside learning experiences." She also told me that her cosmetology instructor told her that she was one of the best nail designers.

A.C. A.C. was a ninth grader who was also in the cosmetology program. She said, "Cosmetology and the Ideal school were her first choices." She liked that this vocational high school was *mixed* so she can get her credits and take classes that she needed to graduate. A.C. also mentioned to me that she had good experiences and that the program helped her learn how to do her and her family members' hair.

S.B. S.B. was an 11th grader, who was enrolled in the culinary program; however, he wanted to be in a program that was more related to marketing. Regardless, he liked the school and told me that the school helped him with marketable skills and that the Ideal School was one of his choices because some of his family members attended that school.

V.C. V.C. was a ninth grader who was enrolled in the cosmetology program. She was a quiet girl who was very timid throughout the interview. She told me that she liked her instructor and she liked her trade program.

D.L. D.L. was also a ninth grader in the cosmetology program. She also enjoyed

the program and liked the hands-on-experiences.

A.B. A.B. was an 11th grader who was enrolled in the culinary program. He liked cooking and he enjoyed that his instructor, CK (a pseudonym), allowed him and other students to cook and make lunches for the staff.

M.T. M.T. was a senior who was also enrolled in the culinary program. He was happy to be graduating this school year and he enjoyed the culinary program. He liked the instructor and enjoyed hands-on cooking different entrees that he never thought he would have cooked. M.T. said, "I like that I will get a certificate in my trade and be able to get a good job in a good restaurant."

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Findings

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Using in-depth individual interviews, nine students revealed their personal experiences while at the Ideal School. In addition, observations were conducted to triangulate the themes that emerged from the interview data. In this section, I presented the findings based on the students' perceptions as to how CTE programs impacted them and the observations that were made. The major themes were described as they related to the research inquiry. Verbatim passages from the participants and field notes will be discussed in this section to support each theme.

Follow Up Question 1: Why Did You Apply to This Vocational School?

Following are the three themes that emerged from the data: job security, familiar people attended the school, and program of interest offered.

Theme 1: Job security. The participants described their experiences in their CTE programs at the Ideal School were centered on job security. This was a frequent and common response. Some students felt that being enrolled in a vocational high school

such as the Ideal School will help them obtain gainful employment. N. C. said, "I can get certified and go to college in that field…I knew it was a trade school and that's what I wanted." Another participant, P. W. said, "I can graduate and get certification and get a job." P. W. also commented that, "because it's a trade school, I can earn my academic credits and get better cooking skills, so I can graduate high school and get a job cooking." B. P. said, "The Ideal School is right for me because it has the cosmetology program, a good one." A. C.'s comment was, "The Ideal School was my first choice because it has the cosmetology program and I heard good things about it." She also said, "I can still get my credits to graduate and cosmetology certificate...its mixed like that."

Theme 2: Familiar people attended the school. Another finding from the interview and data was that students chose the Ideal School because of them knowing family members and friends who matriculated there. Having family members and friends who attended the school was perceived to contribute to the preference of this school by the students in this study.

S. B. summarized by saying, "I really wasn't sure but a family member of mine went there." In addition, B. P. said, "A cousin went there and graduated and knows everything now about Cosmetology." Frequent responses were, "I have friends who went there and doing good for themself."

Theme 3: Program of interest offered. The Ideal School having the trade areas that students wanted was another factor that contributed to their preference. All of the participants were able to enroll in their trade choice except B. P. (first choice-Cosmetology-it was full) and S.B. due to miscommunication. He said, "I wanted a trade area that was close to marketing. The principal told me that culinary was similar but it's

not." All of the other participants were in their first choice as shown in Table 1. V. C. and D. L. both students said that, "Cosmetology was their first choice and were glad that the Ideal School had it." N. C. commented that, "I wanted to be in the carpentry program and since the school had it, I applied to the school." In addition, N. C. said, "She is glad she got accepted into the Ideal School." P. W. said, "She likes to cook and the school having the cooking program was good for her to be in." She also said that, "She would recommend the Ideal School to other people." Other responses from participants included M. T. and A. B. They both responded similarly and that was, "I like to eat so being in the cooking program is a good thing. I also like to cook different things and this program teaches me that." In addition, they both commented that their instructor "knows what he is doing."

Follow Up Question 2: Within which career program have you enrolled?

The data in Table 2 conveys the various CTE programs that the nine participants were enrolled in their vocational technical high school. Four students were enrolled in the culinary program, four students were enrolled in the cosmetology program, and one student was enrolled in the carpentry program.

Table 2

Responses: Question 2

Student	CTE Program
N.C.	Carpentry
S.B.	Culinary
D.L.	Cosmetology
V.C.	Cosmetology
A.C.	Cosmetology
B.P.	Cosmetology
P.W.	Culinary
M.T.	Culinary
A.B.	Culinary

Follow Up Question 3: What do You Like Best\Least About the CTE Program?

Following is the frequent theme that emerged from the data: hands-on learning.

Theme: Hands-on learning. All of the participants expressed liking hands-on learning. This was also noted in the observations. There were no interview responses that indicated dislikes about their trade programs. Various responses included,

It's hands-on and you can build…I get to actually cook different food and prepare them for staff and other important people…I like the learning in and out of class experience…I like being hands-on working with the mannequin dolls and I also like watching the videos…I don't get bored because I am always doing something or making something…I am able to do hands-on work…I am not just sitting down

at a desk all day…I like making things with my hands…It is fun making things. S. B. responded and said, "It's nice and you learn by using your hands, which is good because the computer sucks." The hands-on approach is the only theme that emerged from this follow up research question.

In the observation field notes, it was noted that the participants were involved in various hands on learning in their vocational programs. For instance, P.W. was enrolled in the culinary program and on 2/29/12, I observed her in the kitchen labeling items in the refrigerator and making different pizzas to be sold to the school staff. She also contributed with searing lambs for the next day lunch for the staff as directed by her instructor, Chef X (pseudonym is being used). P.W. appeared to be engaged in the learning by asking the instructor questions, such as, "am I doing this right…I like this Chef X." Another participant, M.T. was in the kitchen and contributed to making the gravy for the lamb. Another account, involved D.L., B.P., and V.C. on 2/16/12 in their cosmetology program practicing giving each other hand massages as a means to improve that skill. B.P. asked her instructor, Ms. T (pseudonym used) if she could give me a massage. The teacher said, "Yes," and I agreed for her to practice that skill on me. In the observation notes, it was noted that N.C. who was enrolled in the carpentry program was engaged in hands on learning as well. On 2/16/12, I observed her installed an exterior door and put in a door handle.

I observed that she was the only female in the class of five boys. While Mr. D (pseudonym used) showed them parts of the door, N.C. watched, afterwards she put on her uniform and safety glasses and picked up the hammer. N.C. measured the length of the door opening to make sure that correct amount of materials were utilized. When Mr.

D. would instruct other students to perform a certain part, N.C. watched and asked questions such as, "He is cutting in another piece of wood, why is the saw jumping like that?"

Follow Up Question 4: If it were possible, would you want to attend the CTE program for the entire school day or would you have it remain the half day it is now? Why/Why not?

Data in this table conveys the various responses given by the participants in regards to this research question. The majority of the students liked the way that the program is structured at their school. They liked being able to attend a school where you can earn your high school credits in order to graduate and where you can earn certification in order to become certified in a trade and get a job.

Table 3

Response: Question 4

Student	Yes/No	Comment
N.C.	Yes	"I would like to remain my day just as it is. I want to get more education from different subjects."
P.W.	Yes	"I like having vocational program and 1st and 2nd academics and rest vocational."
B.P.	Yes	"Remain the way it is."
A.C.	Yes	"I like the way it is mixed so I can still get my credits to graduate."
S.B.	Yes	No comments
V.C.	Yes	"I want to be an actor and go to college and take acting classes."
D.L.	Yes	No comments
A.B.	Yes	No comments
M.T.	Yes	No comments

Follow Up Question 5: How do You Think Your Participation in a CTE Program Has Affected You? Has it Helped/or Not Helped You?

Following are the themes that emerged from the interviews and observations: Teacher Support and personal growth. These two themes can be grouped together because the students expressed that with the help of their instructor in their designated programs, they improved personally.

Theme: Teacher support/personal growth. Many of the participants communicated that being in a CTE program helped them personally by allowing them to gain more experience and allow them to gain more job related skills. S. B. replied to this question by saying, "It has helped me get more experience." N. C. stated, "It has helped me become more focused on what I want to do in college…this program has a good affect." Also, she commented that, "The teachers help me a lot in the classroom and in the workshop." Similarly, P. W. communicated,

> My trade has helped me improve my cooking skills but it is more than just
>
> cooking, how to clean a kitchen, but it has improved me personally. I know how
>
> to get a job and how to do a resume.

Other frequent responses were, "it has helped me learned more about hair…it has helped me." B. P. stated, "This program has helped me because I can practice on sister's doll head to help my hair skills." S. B. responded and said, "It helped me get more experience with what I want to do in college." A. C. stated, "It has helped me because when I'm older, I want to own a hair school." M. T. stated, "I want to be a top chef in a restaurant and getting a head start and get my certificate will help me."

In the observation field notes, it was noted that N.C. assisted a classmate with how to solve a problem related to drilling the nail in the plywood during a simulation activity. Also, it was observed that on 2/23/12, the participant volunteered to teach and demonstrate at the Habitat for Humanity workshop how to place tiles on the floor. Another student asked her if she remembered, she said, "Yeah, Mr. D. showed us before." In another instance, on 2/15/12, D.L., V.C., A.C., and B.P. showed their mannequins with different hairstyles and students, the principal, and staff from other

schools was there and observed them. One of the visitor asked the girls how they knew how to do those curls like that, they responded, "Our teacher Ms. T always have us practicing, so we know."

Follow Up Question 6: Is there anything else you would like to add regarding this topic that I have not asked you?

The data in this table conveys the responses given by the participants in regards to any information that I did not ask about that they felt were important to share regarding their enrollment in CTE programs.

Table 4

Responses: Question 6

Student	Response
N.C.	Yes-"It is a good school and I'm glad I got accepted into the school." "We get to participate in Habitat for Humanity and help build houses for people."
P.W.	No
B.P.	No
A.C.	No
S.B.	No
V.C.	No
D.L.	No
A.B.	No
M.T.	No

Many of them did not have anything to add; they had shared a lot of information to me that were pertinent to this study. One participant mentioned the enjoyment of being able to participate in a community program that builds houses for different communities.

Discrepant Cases and Nonconfirming Data

After the interview and observation data were analyzed, I looked for discrepant cases. According to Maxwell (2005), "no research is a self-fulfilling prophecy; presenting negative information that develops in a study can add validity" (p. 126). Since there were no expectations, I looked for possible themes that did not correspond. There was a participant who responded differently to certain research questions than his peers did. For example, when asked Question 3, S.B. responded, "It's nice and I like my teacher." For the second part of the question he responded, "I think its boring because the computer sucks." His response was not one that was common as compared to the comments conveyed by the other participants. Many of the other participants did not commented on anything negative about their CTE programs.

Patterns, Relationships, and Themes

There were three distinct patterns to support CTE programs and its impact on at-risk students. One pattern that was consistent in all interviews was that job security was critical to the level of students being engaged in their CTE (trade) program. The data from this study reinforced that concept. All participants shared information in which their programs or trade supported their probability of obtaining gainful employment after graduating high school.

The hands-on learning approach learning style among the students was important for all participants. This approach in N.C.'s trade was very strong. She said, "The CTE

programs have helped me a lot. I'm able to do hands-on work."

Lastly, the pattern that evolved among all students was that CTE programs enhanced them personally. Many students, specifically the 11th and 12th graders, recalled experiences during their high school career in which the CTE programs helped them personally. P.W. said it's more than just cooking. She said,

> If I was not in a trade program, I don't know if I would graduate and still come to
> school. My culinary trade has helped me personally. I did not know how to get a
> job before, now I know how to write a resume.

Evidence of Quality

To ensure trustworthiness of the data, triangulation, member checking, and peer review were implemented to ensure credibility and accuracy. Using various sources allowed me to confirm evidence of the themes that occurred in this study. Observing and interviewing nine students versus two or three students enabled me to gain responses that shared commonalities. In addition, obtaining data from my multiple observations and interviews enabled me to accomplish trustworthiness of data too. Once the interviews were completed and transcribed, each participant was asked to review the transcription for accuracy. At that point, each participant was given the opportunity to ask questions, to provide additional information, or to clarify statements. In addition, member checking took place.

Participants were asked to review the findings to assure the interpretations were accurate. Creswell (2007) said, "Taking data and interpretations and conclusions back for participants to check for accuracy can ensure validity in the study" (p. 208).

Also, peer debriefing with an outside person occurred to assure honesty by me as

it pertained to the methods and interpretation of the data. An educational colleague who was familiar with the topic was asked to review the data and interpretations to assure the accuracy of the data analysis. This colleague had 18 years of teaching experience with students of various grade levels and populations, including students enrolled in CTE programs. Additionally, this colleague did not have a doctorate degree. Throughout the data analysis, a record journal containing reflections, thoughts, questions, or anything that pertained to the data analysis of this study was documented in the journal.

Section 5: Discussion, Conclusion, and Recommendations

Overview

In this qualitative study, I explored the experiences of secondary at-risk students enrolled in CTE programs. As noted in Section 1, Pestalozzi's (McKenna,2010) career development theory, Dewey's (Schmidt,2010) democratic humanism theory, and Rousseau's (Gilead,2012) human development theory provided the primary conceptual framework for this study. Exploring students' views of CTE programs and how these programs impacted their lives, the research indicated that CTE programs can be beneficial for this population. Students interviewed and observed for this study were enrolled in various CTE programs within a vocational technical high school. The topic of CTE programs and their impact on secondary at-risk students in jeopardy of educational failure should be of interest to educational leaders as they make decisions about school programs and appropriate placements for students who are experiencing educational failure in their schools.

Using a case study approach, interviews were conducted as a means to gain a better understanding of the experiences of these students enrolled in CTE programs. According to Boyce and Neale (2006), "the primary advantage of in-depth interviews is that they provide much more detailed information than what is available through other data collection methods, such as surveys"(p.3). The interviews were structured to answer a primary research inquiry: What are the experiences of students at risk for educational failure who are enrolled in a CTE program? In addition, the six interview questions were asked to allow participants to provide more in depth responses (see Appendix B). The structured interviews were manually documented and transcribed verbatim. Each

interview was held in a quiet location at the school and lasted no longer than 45 minutes.

Observations lasted no longer than 1 hour. Each of the participants was observed twice a week during class time (see Appendix A). These observations allowed me to look for information related to student activities, conversation, actions, interactions, curriculum, and communication. These observations were noted on an observation protocol and then analyzed for themes that coordinated with the interview findings.

Each participant provided details of their various experiences while enrolled in their CTE program. This study revealed that the students enjoyed being in their programs and that the majority of their experiences were enjoyable and advantageous. Through the interviews and observations, this study revealed those factors associated with being enrolled in a vocational program led these students to have satisfied experiences.

Interpretation of Findings

The purpose of this qualitative case study was to gain an understanding of the experiences of students at risk for educational failure who were enrolled in CTE programs. The majority of the existing literature reviewed on CTE programs has been quantitative; they utilized surveys and questionnaires. In this section, it is my responsibility to capture the stories told from those participants. According to Hatch (2002), "findings will usually take shape as stories with beginnings, middles, and ends" (p. 233).

One of the purposes of the Carl D. Perkins Vocational and Applied Technology Act is to integrate academic and vocational education. Given an increase of at-risk students entering secondary school, the implementation of CTE programs at this level for this population is crucial. A review of the literature indicated that an increase of intent in

CTE among business leaders and policy makers is due to the traditional education pathway; attending a 4-year college maybe inappropriate for many students (Guy et al., 2009). A review of literature also indicated that 25% of high school students have a focused area within CTE. Such data and rate would certainly impact the success of these students (Levesque et al., 2010).

There are multiple reasons CTE programs contribute to the success of at-risk students. The literature revealed that CTE programs are beneficial for students at risk for educational failure by providing them with experience-based learning opportunities and by providing them with the ability to engage and retain in high school (Cavazos, 1991; Chadd, 2006;Drage, 2009).In addition with increased student motivation and increased acquisition of employment skills, studies specific to the impact of CTE programs on secondary students at risk for educational failure revealed that the most popular reason is because of the job skills they receive. Students in this study cited job security as a reason for choosing to enroll in CTE programs in a vocational high school.

Based on Rousseau's (Gilead, 2012) human development theory, Pestalozzi's (McKenna, 2010) career and development theory, and Dewey's (Schmidt, 2010) democratic humanism theory, hands-on learning through the usage of all senses was lacking and traditional high schools did not offer CTE programs. These past educators believed that students learn best by *doing*. The integration of hands-on activities should occur more in schools rather than learning solely through text books and rote memorization. Rousseau, Pestalozzi, and Dewey believed that these types of learning and teaching were beneficial.

The students in this study shared their experiences and their views about their CTE program. They emphasized which factors caused them to experience enjoyable moments in their CTE programs. Each student's reasons and stories were similar yet different. The specific factor each selected to enroll in a CTE program within a vocational high school was different. The following are the interpretations of the findings derived from this study.

Interpretation 1: Student Had Experienced Hands-On Learning via CTE Programs

Tactile learning is an effective style for teaching at-risk youth. Hands-on learning is viewed as the strongest perceptual modality for this population.Herzek (2008) stated:

In my current decade in education, it became understood that connecting academic studies to something a youngster enjoyed or something they could relate to and/or physical touch, could positively impact their academic achievement. Learning how to calculate area or perimeters by determining how much concrete was needed for a patio proved to be more successful approach than trying to teach this concept by drawing chalk on line on green board. (p. 62)

Students in this study enjoyed being able to make something that actually represented what their CTE instructor taught them.

Although not directly responsible for the impact of CTE programs on at-risk students according to the literature review in this study, teacher support impacted the success of at-risk students in these programs. According to Giannola (2011), student teacher relationships are important at any grade level, but they are even more so at the secondary level. Adolescents are growing emotionally, developing a young adult identity. . . Adolescents appreciate support, communication, and outcomes from

educational leaders (p. 22). Social interactions with peers and adults can support cognitive growth. CTE educators have more time to mentor, guide, and build positive relationships.

Interpretation 2: Students Gain Job Security/Skills

Secondary at-risk students are satisfied with obtaining a decent job that will yield a good salary. Literature (Bottoms, 2008; Keffeler, 2008; Orchowski, 2011) surrounding job security addressed the correlation between CTE programs and students obtaining employment in their area of training or employment that yields consistent income. The mission of postsecondary education should be focused on helping students get a job (Orchowski, 2011). Based on the results of the interviews for this study, obtaining employment was an important factor. If the program of interest was not offered, the students in this study reported that the Ideal School would not have been their choice.

Interpretation 3: Students Experience Personal Growth

Students want to feel good about themselves; CTE programs seemed to help develop students' self-esteem and value for themselves. Kosine and Levi (2008) reported that CTE programs can promote a sense of self efficacy. This self efficacy contributes to the academic success for at-risk students. The participants in this study reported that being in a CTE program helped them personally grow. They gained more experience in their area of interest.

Interpretation 4: Students Experience Real-World Learning Opportunities

Forming real life experiences provided authentic learning among students. Pestalozzi (McKenna, 2010) reported that schools should integrate more hands-on learning, as Dewey (Schmidt, 2010) similarly reported. He emphasized that students

learn best by being in action. Each student reported positive experiences in which they enjoyed learning by engaging in tactile assignments that enabled them to understand what they learned from their textbooks. Students' viewed CTE programs as a way to learn and develop connections from the classroom to the real world (Cavanagh, 2005). This was not the primary effect of CTE programs on these students; however, this was a major factor that contributed to students' success n their CTE programs.

Implications for Social Change

The intent of this study was to gain a deeper understanding about the manner in which CTE programs within vocational high school affect secondary students at risk for educational failure. Schools experiencing a high academic achievement gap are those that serve a higher percentage of an at-risk population. The enrollment of students within U.S. public schools who encounter difficulties at various levels of severity impacting their academic, emotional, and social performance increases at a steady pace(Brewer, 2004). One of the goals of the No Child Left behind Act (NCLB) is to "close the achievement gap between economically advantaged students and those considered at risk for school failure" (Lagana-Riordan & Aguilar, 2009, p. 135).

Many schools administer uniform assessments to students regularly to demonstrate that the school is making adequate yearly progress (AYP); however, many of these schools now have to direct attention to at-risk students because of their low test scores. Traditional high schools that do not offer a combination of CTE programs and academic courses unfortunately seem to experience low test scores among this population. Integrating CTE with academic work may increase students' engagement, which is a concept that has been shown to be strongly linked to academic achievement

(Plank, DeLuca, & Estacion, 2008).

The participants (10th-12th graders) in this study attended traditional high schools in an urban location but decided that making the choice to attend the Ideal Vocational Technical High School, which offered various CTE programs, was the best decision for them. The Ideal School met AYP for 2010 and 2011 according to an initial conversation with the principal.

Given the additional responsibilities associated with NCLB, principals shouldensure that their schools provide at-risk students with the opportunity to obtain a high quality education that accommodates them. When district school leaders look at closing the achievement gap, they should determine if vocational technical high schools that offer CTE programs are better suited or more appropriate for at-risk students experiencing academic difficulties. Ignoring this placement possibility may continue to be detrimental to the academic success of at-risk students as well as continue to show an achievement gap in schools.

Recommendations for Action

This qualitative case study contributes to the existing body of literature on CTE programs and at-risk students as well as contributes clarity to the manner in which CTE programs affect these students. Recommendations for action are listed below.

Recommendation 1: Educational Leaders Should Reexamine the Curriculum at Traditional High Schools

If traditional secondary schools are to experience success teaching and reaching our at-risk students, then school leaders need to consider integrating a curriculum that demonstrates the link between academic and employment. Plank, DeLuca, and Eustacion

(2008) reported that CTE programs can directly connect academic skills with real world activities in the workplace. The results of this study found those students who chose to apply and attend a vocational technical high school versus a traditional high school to pursue a vocational route did so because they felt it was a good start to gain certification skills that would result in them obtaining a good job after graduating high school.

Students need to know that what they are being taught in the classroom can be applicable in the job market and earning income. Since one of the factors that deem students at risk is low socio economic status, earning income is important to them and getting certified in an area of vocational interest can yield that outcome.

Recommendation 2: Educational Leaders Should Develop a Curriculum that Incorporates More Hands-On Learning Opportunities

Sitting at desks and listening to teachers lecture and then completing paper-pencil assignment is not effective for at-risk students. Our educational leaders should recognize this and create a curriculum that allows students opportunities to demonstrate their knowledge by having to create something to show that they understand the given concept/skill. This type of curriculum will also appeal to students' learning styles, which is important for all students' academic success, not just at-risk students. Students in this study stated that they enjoyed learning by doing. They liked that they were always doing something or making something rather than just sitting down at the desk all day listening to teachers and taking notes.

Recommendation 3: Additional Funding Should Be Directed to Building More Vocational Technical High Schools for Students Experiencing Educational Difficulties

More vocational technical high schools exist in urban areas like the subject school; however, more technical high schools need to be built in these areas as well as suburban areas. More students are entering high schools that are ill equipped to help them for various reasons. At-risk students experience low self-esteem, low self-worth, and low sense of belonging because they have not experienced success. Students in this study reported that being in a CTE program helped them personally by providing hands-on experience in their corresponding program and trade. Also, this helped them become more focused on what they wanted to do; being in CTE programs at a vocational high school also contributed to them staying in high school and not dropping out. They felt liked they belonged. It is critical that as educators, all students experience a sense of belonging and connection to the teachers and other educational staff. This can be a possible factor to these students academic achievement/failure (Faulkner et al., 2009).

Recommendation 4: Educational Leaders Should Provide Additional Professional Development and Training to Educational Teaching Staff who Serve This Demographic

Just as the art of teaching continues to evolve, so does the diversity of learners who enter the schools and classrooms. Teaching in the traditional format, which includes lecturing, sitting down at desks, note taking, and memorization, is not enough for the types of students entering classrooms in the 21st century. They require the integration of all five senses and the tactile-kinesthetic learning strategies.

Educational staff should be provided with professional development and training that will expand their teaching repertoire to teach and interact with at-risk students. This can help teachers be effective and inspire the students to want to attend school. In addition, the professional developments and trainings can help decrease frustration among students and teachers. These meetings are critical to retaining these students in the traditional high schools.

Recommendations for Further Study

The following recommendations for further study related to CTE programs and at-risk students.

Recommendation 1: A Study of At-Risk Students Who Graduate From CTE Programs Within a Vocational High School and Attend College

This study was limited to high school at-risk students who were enrolled in a CTE program. To expand this study,I would follow-up with those students who graduated from the Ideal School who were enrolled in a CTE program and who decided to further their education by attending a 2 or 4 year college. This would be data to add to the existing body of literature about CTE programs and at-risk students, especially since existing data reports that CTE programs is viewed by the public as a route for non-bound college students.

Recommendation 2: A Study of Experiences of At-Risk Students Could be Included With Parents' Experiences of Their Child Enrolled in CTE Programs at a Vocational High School

This study was designed to examine the perceptions and experiences of at-risk students while enrolled at a vocational technical high school in CTE programs. This

study could be expanded to include an examination of parents' perceptions and the experiences of their child at this school; the goal would be to determine whether parents feel the educational program had a positive impact on their child.

Recommendation 3: A Study to Include Former Students Who Enrolled in CTE Programs at Vocational High Schools and Their Experiences, Perspectives and Impact

To include current as well as former students could add to the body of literature on the impact of CTE programs and secondary students in jeopardy of educational failure. To include the experiences/stories of former students who were enrolled in CTE programs at Ideal School versus current students could be examined. To determine these students are successful and productive citizens years later would also be valuable information.

Reflection

This research study provided an opportunity to gain insight from at-risk students and their experiences in CTE programs. It is felt by some that at-risk students are not succeeding educationally because they dislike learning. On the contrary, these students enjoyed learning. Researchers (Ray & Elliott, 2006; Walker, 2010) cited a sense of self efficacy, heightened sense of career awareness, enhanced student motivation, and academic achievement, and hands-on learning as benefits related to the academic achievement of at-risk students. There were no preconceived ideas as to how, if any, CTE programs had affected this group of students. Although I taught in schools with a high population of at-risk students and had multiple conversations with these students about their interest, I was curious to examine the effects that CTE programs had on these

students' experiencing a lack of educational success.

During the interviews and observations, I was very cognizant to not influence the behavior or responses of participants or initiate a response by reacting to their statements or behavior. At the beginning of each interview and observation, I was concerned that each participant would be reluctant to share his or her stories with me or to behave as they normally would. Surprisingly, they revealed their experiences to me openly and willingly and acted as though I was not present. I developed a positive rapport with each participant in the interviews. In my observations, I was also cognizant of not allowing any of my biases as a teacher interfere with my interpretations of their behaviors.

As an English teacher, conducting a qualitative study kept me in my comfort zone, yet at times, it was still a challenge because of the inundation of written data. I wanted to deeply listen to what these students had to say about their experiences. The benefit of this case study was that it allowed me to meet some great students who have wonderful future goals for themselves. In addition, I became knowledgeable about conducting a qualitative case study from every aspect.

The Take Home Message

The types of students entering a classroom changes every year. Many students come from a single-family household, low-socioeconomic environment, drug infested environment, or even an abusive environment, which can impact the educational success of at-risk students. The students in this study did not use their current family situation or environment to determine their futures. They made the choice to apply and attend a vocational technical high school and enroll in a CTE program because the results and benefits were more appropriate and effective for them. Unfortunately, choosing to

remain in a traditional high school setting was not an option.

To teach at-risk students who are experiencing academic challenges, school leaders need to integrate academic skills that relate to real world activities/situations. School leaders need to develop a curriculum that provides more hands-on learning experiences for these students. In addition, these educational leaders need to provide the support and training to help the educational staff teach and help these students if they are to remain and be educationally successful in a traditional high school. Being proactive rather than reactive can help decrease the frustration felt by teachers and at-risk students.

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Appendix A: Observation Protocol

The primary *researcher* in this protocol is the observer. The observer's purpose is to gain an understanding of the experiences of at-risk students who are enrolled in a CTE program. The duration of each observation will be at least 45minutes-1 hour the maximum; the participant can stop at any time he or she wants by privately telling me face to face or via phone.

Observation

The observations will focus on the following: interactions, curriculum, and communication.

Study Note Template in Janesick Format

Notes to Self	**Observation**
Here you can include your own concurrent thoughts, reflections, biases to overcome, distractions, insights, etc.	*Here you should include exactly what you see and hear from the objects, people, and/or settings you are observing.*

Appendix B: Interview Protocol

Background Information on Interviewee

Date: _____

Name: _____

Age: _____

Review of Participant Rights Related to This Interview

Initial Statement of Inquiry: Tell me about your experiences in the CTE program.

Follow Up Questions

1. Why did you apply to this vocational school?

2. Within which career program have you enrolled?

3. What do you like best about the CTE program? What do you like least about the program?

4. If it were possible, would you want to attend the CTE program for the entire school day or would you have it remain the half day it is now? Why/Why not?

5. How do you think your participation in a CTE program has affected you? Has it helped you? Has it not helped you?

6. Is there anything else you would like to add regarding this topic that I have not asked you?

Thank you very much for taking the time to participate in this interview.

SABRINA SMITH
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Curriculum Vitae

EDUCATION AND CREDENTIALS
Ed.D, Teacher Leadership, 2012-Walden University, Minneapolis, MN
MS, Elementary Reading&Literacy, 2007-Walden University, Minneapolis, MN
BS, Special Education, 1996-Virginia State University, Petersburg, VA

PROFESSIONAL DEVELOPMENT
　　Understanding Behaviors Workshop, Accessibility Summit Conference
　　Rewiring the Nervous System, Accessibility Summit Conference
　　Sharpening the Focus: Putting Partnership into Practice

TEACHING EXPERIENCE
　　Montgomery County Public School, Germantown, MD　　　　2005-Present
Special Education Educator, Case Manager, IEP Chairperson, English Teacher
　　Provided instructional support in English classes for numerous students with
　　IEP's; collaborated with general educators regarding differentiated instruction.
　　Managed numerous students' educational goals that were on my caseload.
　　Conducted numerous IEP meetings (annual, Periodic review, etc…).
Howard County Public School, Clarksville, MD　　　　　　　　2005-2003

English Teacher, Exit Manager
　Taught grades 10-12 English classes at an alternative high school.
　　Documented behavior and academic progress and wrote recommendation
　　regarding students' readiness to return to home school.
Care Resources, Inc., Baltimore, MD　　　　　　　　　　　1999-2003
Special Education Infants/Toddlers' Teacher
　　Provided instruction to students with IEP's in home setting or school.
National Children's Center, Washington, DC　　　　　　　1998-1997
Special Education Teacher, Life Functional Skills
Edgemeade, Upper Marlboro, MD　　　　　　　　　　　　1997-1996
Transition Specialist/Job Coach

PROFESSIONAL ASSOCIATIONS
　　Member, National Association of Special Education Teachers

COMMUNITY SERVICE
Volunteer, Light the Night Walk Lymphoma Society, 2009-2011

Volunteer, Clean the Stream Pollution Project, 2011
SCHOLASTIC MEMBERSHIPS

Member, Kappa Delta Pi Honor Society
Member, Who's Who of Professionals