Student Persistence in Career and Technical Education: A Multi-Sample, Mixed-Method Evaluation of Student Services

A Dissertation Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Brittany Jo Daulton
May 2015

Copyright © 2015 by Brittany Jo Daulton
All rights reserved.

Dedication

To my family – Mom, Dad, and Brandon – Thank you for your love and support, always believing that I can achieve anything. You gave me hope, encouragement, and a desire to work hard. For that, I will forever be grateful. Also, for my friends, family, and support group in Somerset, KY – you know who you are- this is for you and for all the dreams you have. No dream is too big, and this is living proof. Thank you to each one of you for being a part of this journey, I would not want to do life with any other people.

Here's to the next chapter in my life, in which I'm so glad you will all be a part of. In the words of my good friend Chris Estes, "Get your hopes up!"

Acknowledgements

I would like to give a special thank you to my advisor and chair, Dr. Jennifer Ann Morrow. Thank you for taking every step of this journey with me. You have helped me accomplish so much throughout my time at the University of Tennessee, and I am so grateful to be a part of the Evaluation, Statistics, and Measurement program. Thank you for investing in my success. To my hard working committee members, Dr. Gary Skolits, Dr. Shawn Spurgeon, and Dr. Dulcie Peccolo, I could not thank you enough for believing in me and providing me with so much support. Your willingness to be a part of this process has made it more enjoyable than it would have been without you. I am so glad to have the opportunity to work with each one of you.

I would also like to thank the students in the ESM program. Each one of you has given me so much that I will take with me forever. You have become a part of my family, and I could not have finished this adventure without you. You have encouraged me through the toughest times, and have been the first ones to celebrate the good times. I cannot wait to continue our friendship and professional work together.

To my University of Tennessee Office of Institutional Research and Assessment, especially Dr. Denise Gardner and Michael McFall, you have been the greatest support system to me. Thank you for the opportunity to be a part of our office, and for the care and encouragement you have each shown to me. This accomplishment is part yours, and I am more than happy to share this with you!

Abstract

The purpose of the current study was to evaluate the student services offered at the Tennessee Colleges of Applied Technology (TCAT) institutions, getting perspectives from students, faculty, and administrators. It also served to investigate the link between student support services and persistence. Using the TCAT institutions as an exemplary model, the evaluation study provided a model to be used by similar institutions to help students persist through their career and technical education experience. The evaluation used a utilization focused approach to determine the effectiveness of student support services provided. Data were collected from student, staff, and administrators and triangulated to draw study conclusions.

Both students and staff recognized the role that instructors play in student support at the TCAT institutions. Although students were able to more specifically discuss the impact of their instructors on their success, the staff members were also aware of the fact that instructors spend the most time with the students on campus and are the first-line of support for them.

Neither population discussed the formal activities of student support services (i.e. financial aid, counseling, enrollment, orientation), rather they usually referred to extra-role behaviors of the student support staff. There was discrepancy when examining student awareness of the services and their use. Staff members do not seem to be aware of the fact that students may not fully understand what student support services are, nor how these services could help them.

These results provide evidence that TCAT institutions are for the most part meeting the needs of their students. It is also evident that the needs of CTE students are very different from those of traditional higher education students. The current research allowed for the examination of an exemplary CTE system, and the investigation of how this system is helping their students persist.

Table of Contents

Chapter 1 Introduction and General Information 1
- Introduction to the Study 1
- Statement of the Problem 1
- Purpose of the Study 2
- Theoretical Background 2
- Significance of the Study 3
- Objective 5
- Research Questions 5
- Assumptions, Delimitations, and Limitations 6
- Terms and Definitions 7
- Overview of the Study 8
- Summary 8

Chapter 2 Literature Review 9
- Introduction to Career and Technical Education (CTE) 9
- Student Support Services 12
- The Role of Student Support Services 16
- Student Persistence at CTEs 19
- Understanding Student Persistence in CTE 22
- The Role of Sense of Belonging 23
- Research on Career and Technical Education (CTE) 25
- Tennessee Colleges of Applied Technology (TCAT) 27
- Gaps in the Literature 33
- Study Purpose and Research Questions 35

Chapter 3 Method 36
- Study Participants and Design 36
- Measures and Instruments 43
- Student Survey 43
- Student Satisfaction with TCAT. 45
- Student Focus Group Protocol 45
- Staff Survey 46
- Staff Interview Protocol 46
- Administrator Interviews Protocols 47
- Procedure 47
- Proposed Analyses 48
- Research Question 1: How do TCAT student support services contribute to student persistence? 48
- Research Question 3: How do TCAT staff members perceive student support services? 50
- Research Question 4: How do TCAT administrators perceive student support services? 51

Chapter 4 Results 56
- Data Cleaning 56
- Student Support Services and Student Persistence 57
- Sense of Belonging 57
- Institutional Commitment 63
- Career Integration 67

Student Focus Group Data 70
Staff Member Perspectives 72
Data Summary 77
Student Perception of Student Support Services 78
Student Survey Responses 78
Student Focus Group Responses 85
Data Summary 87
Staff Perceptions of Student Support Services 88
Staff Survey Responses 88
Staff Interviews 91
Data Summary 93
Perceptions of TCAT Administrators 97
Data Summary 99
Summary of Results 99
Chapter 5 Discussion 101
Research Question 1: How do TCAT student support services contribute to student persistence? 101
Research Question 2: How do TCAT students perceive student support services? 104
Research Question 3: How do TCAT staff members perceive student support services? 106
Research Question 4: How do TCAT administrators perceive student support services? 108
Limitations of Study 109
Practical Implications 111
Future Research in Career and Technical Education Settings 114
Conclusions 115
List of References 118
Appendices 128
Appendix A 129
Appendix B 130
Appendix C 142
Appendix D 144
Appendix E 149
Appendix F 151
Vita 153

List of Tables

Table 1 Tennessee Colleges of Applied Technology Campus Locations and Fall 2014 Enrollment……28
Table 2 Number of Student Participants and Percentages by School 37
Table 3 Number of Staff Participants and Percentages by School 40
Table 4 Data Collection and Analyses by Research Question..... 52
Table 5 Total Sense of Belonging..... 58
Table 6 Sense of Belonging Means and Standard Deviations for East TN Region..... 59
Table 7 Sense of Belonging Means and Standard Deviations for Middle TN Schools..... 60
Table 8 Sense of Belonging Means and Standard Deviations for West TN Region 61
Table 9 Results of One-Way ANOVA for Sense of Belonging and Region 62
Table 10 Total Institutional Commitment..... 63
Table 11 Institutional Commitment Means and Standard Deviations for East TN Region..... 64
Table 12 Institutional Commitment Means and Standard Deviations for Middle TN Region..... 65
Table 13 Institutional Commitment Means and Standard Deviations for West TN Region 66
Table 14 Results of One-Way ANOVA for Institutional Commitment and Region 67
Table 15 Total Career Integration Percentage Agree and Strongly Agree 68
Table 16 How Student Support Services Helped you Stay Enrolled at your TCAT Institution... 71
Table 17 Staff Survey Item Responses 72
Table 18 How do Staff Think Student Services Offered at the TCAT Help Students Persist?.... 73
Table 19 What do staff members think the purpose of student support services is at their institutions? 76
Table 20 Total Student Satisfaction Percentage Agree and Strongly Agree 79
Table 21 Strength of Student Support Services 81
Table 22 Additional Support Services Needed..... 85
Table 24 Staff Survey Item Responses Percentage of Agree or Strongly Agree..... 89
Table 25 Most Beneficial Aspect of Student Support Services 90
Table 26 Services that Need Improvement..... 95
Table 27 Are Student Support Services Meeting Student Needs?..... 96
Table 28 Role of Instructors in Providing Support to Students 97

Chapter 1

Introduction and General Information

Introduction to the Study

This chapter describes the purpose of the current study, states the problem that was investigated, the significance of the study, as well as its limitations. It also includes the objectives of the study, as well as the research questions. In the wake of continuous conversations regarding student retention and persistence, student services are a popular solution offered to remedy student retention problems (Decker, 2013; Reynolds, 2013). Most of the current research on student services and persistence done in higher education is done at traditional four-year universities and community colleges. Although research has provided evidence that student support services lend themselves to increase student persistence (Bers & Smith, 1991), little of this research has been done in Career and Technical Education (CTE) institutions or with CTE students.

CTE offers a form of higher education to students to enable them to gain skills and directly apply them to the workforce. The mission of these institutions is to work to develop the local workforce, assessing the needs of the communities around them and teaching students skills to help fill gaps (González, 2012). The state of Tennessee is home to 27 technical institutions, the Tennessee Colleges of Applied Technology (TCAT). With retention, completion, and placement rates well above the national average (>75%) the TCAT system served as an exemplary system of CTE institutions (González, 2012).

Statement of the Problem

Although much research had been done regarding student persistence and retention, there was little scholarly research published in the area of CTE and persistence. Student services have

been seen as a strategy for improving student retention and persistence, but this phenomenon had not been studied in the context of students enrolled in technical institutions. CTE student populations are very different from that of traditional four-year institutions or community colleges, and thus the needs of the students and programmatic interventions provided to students are different. In order to understand how student services affect student persistence in CTE, research was conducted using this student population.

Very little was known about the needs of CTE students, as well as what services were offered to them to help them persist and graduate from their institutions. Before one could assume that the current services were helping students, the researcher first had to learn more about the student population enrolled in these institutions in order to design appropriate interventions and programs to help them persist throughout their educations.

Purpose of the Study

The purpose of the current study was to evaluate the student services being offered at the TCAT institutions, getting perspectives from students, faculty, and administrators. This study examined the link between the student services and persistence. Using the TCAT institutions as an exemplary model, based on their above national average retention, placement and completion rates, this evaluation study provided a model to be used by similar institutions to help students persist.

Theoretical Background

Throughout the college experience, student support services are a way for students to become more engaged in campus life and gain vital information to help them be successful. But, as with all programs in higher education we could not just assume that what institutions are doing is working or is effective for students. Evaluation is an activity that allows researchers to

determine the merit, worth, value, or significance of a program or service (Patton, 2011). Through evaluation questions are answered in regards to: How effective is the program? To what extent has the program been implemented as expected? What goals, outcomes, or results were achieved by the program? To what extent and in what ways did the participants benefit, if at all? What needs of participants were met? What are the strengths and weaknesses of the program, and how can it be improved? (Patton, 2011).

This study applied utilization focused evaluation to determine the effectiveness of student services provided by the TCAT institutions, and the evaluation was conducted with careful consideration of how everything that is done, from start to finish, would affect use (Patton, 2011). Utilization focused evaluation can be defined as a process that focuses on intended use by intended users, to encourage real world application of evaluation results (Patton, 2011).

Significance of the Study

At the time, there was little literature that informed best practices of student services in CTE. With the results of this study, CTE will continue to be improved by offering more support to their students, helping them persist throughout their education and develop skills to be applied to their workforce. TCAT institutions conduct needs assessment research of each community before they offer new programs. This ensures their institutions are developing workers that meeting the needs of the local workforce. Not only can the current results be used state-wide, but they can also be used to improve CTE institutions and student support across the country.

It was also important as we continued developing best practices in student support services in CTE institutions, that we were aware of the CTE population. Institutions must be able to define their CTE population in order to determine their needs and know what types of programs students need to help them be successful. The same can be said for the TCAT

institutions, we knew that the institutions have had much success and students are finishing their programs and gaining employment in their fields, but we were not sure how students were so successful (González, 2012).

Although much research had been done regarding student persistence, much of the literature was conducted in traditional four-year universities or two-year community colleges. The literature lacked research regarding career and technical education, their success, and how that success occurred. Little investigation had been done to examine what was different about the student success in technical education models (Crisp, 2010). Although there was awareness that the community college and CTE population was different, the literature had not clearly established what this meant in regard to the persistence of students. There was a lack of research done in Career and Technical Education settings, and therefore a lack of description of the student population enrolled in these programs. Until the student population was defined, we could not determine the best ways to retain students and help them be successful. In order for the best student support services to be provided, we had to first identify these populations to design programs that met student needs.

There have been mixed results from multiple studies examining factors that affect two-year or non-traditional students' persistence (Bers & Smith, 1991). Most of the student persistence research had been done in regards to traditional college students, at four year institutions (Bers & Smith, 1991). But, as Tinto (1987) had previously warned, we must be leery of applying concepts and measures designed for traditional students to nontraditional students (Bers & Smith, 1991). Once again, the student population in Career and Technical Education programs is very different from traditional four-year institution populations, and thus careful considerations must be made when applying implications of research from four-year traditional

populations to career and technical programs. There was a clear lack of research done measuring sense of belonging in the career and technical education populations, leading to a lack of understanding of how it affects CTE student persistence.

There was little research about Career and Technical Education and how it affects or measures student persistence. Especially in the TCAT system, it was clear that students are successful with their high completion and placement rates (>75%) (González, 2012). What we did not know was how their students were so successful, what made their model different? We needed to learn more about the student services that are offered to CTE students, and the role these services play in their persistence. The current study allowed for an investigation of an exemplary CTE institution system, allowing other systems to emulate the success of the TCAT student services and students.

Students were asked their opinions and satisfaction of the support services they receive, to begin to define the relationship between TCAT student support services and student success. Using a multi-site, multi-sample design, the student services in each TCAT institution were evaluated focusing on what services the institutions provided and their role in student persistence. In order to better understand the culture of the TCAT institutions and the student support services they provide, data were collected from students and staff at the institutions and the administrative staff from the TCAT central office.

Objective

The multi-site evaluation was implemented using the following hypotheses and research/evaluation questions.

Research Questions

1) How do TCAT student support services contribute to student persistence?

2) How do TCAT students perceive student support services?
    a) Are students satisfied with their experiences at TCAT institutions?
    b) Are the supports provided meeting student needs?
    c) What other types of supports do students need?
3) How do TCAT staff members perceive student support services?
    a) How are student support services helping students?
    b) What types of supports do they believe students need?
    c) In their opinion are the supports provided meeting student needs?
4) How do TCAT administrators perceive student support services?
    a) How should students be supported?
    b) What do they perceive are the needs of students enrolled?

Assumptions, Delimitations, and Limitations

In this study, I came from an internal perspective of the Tennessee Colleges of Applied Technology. I had the opportunity to serve as an intern in the central administrative office throughout the summer of 2013. During that time, I became passionate about the functions of the institutions and the ways they were reaching out to communities and helping spread higher education to those that may not access it otherwise. The TCAT institutions survey their communities to identify needs for potential programs for them to offer their students, helping meet the needs of the communities around them. Throughout my experiences with the TCAT, I was able to identify and learn about how successful the system has been with retention, completion, and placement rates above the national average (>75%) (González, 2012).

With this experience, I have formed several assumptions with the help of learning more about and communicating with those inside the CTE field. The first assumption is that the TCAT

institutions are doing something right, and it would be worthwhile to distribute their message of success and how their organization works out to the field. The TCAT institutions have other CTE systems contacting them to learn more about what they do to be successful, so there is obvious interest in what they are doing. Because of this assumption and my previous experience, it is clear that I must guard against my biases stemming from the passion I have for the work being done in the TCAT institutions. The students enrolled in these institutions are often being given an opportunity to engage in higher education when they may not have the opportunity otherwise. I had to be aware of the passion that I held for CTE, and make sure I guarded against that passion and any potential biases as I conducted the study.

Terms and Definitions

The following were key concepts that should be understood throughout the current study:

1) Academic Integration – extent to which the student meets academic standards of the institution and the degree of fit the student feels with the norms and values of the academic community (Hirschy et al., 2011).
2) Social Integration – the interaction between the individual with given sets of characteristics within the college (Tinto, 1975).
3) Career Integration – degree to which students experience interaction with career-related activities—in or outside the classroom and on or off campus—and feel a fit with the norms and values of their chosen occupational field (Hirschy et al., 2011).
4) Affective Institutional Commitment – students' emotional attachment to, identification with, and involvement in, the institution (modified from Allen & Meyer, 1990).
5) Continuance Institutional Commitment – commitment based on the costs that students associated with leaving the institution (modified from Allen & Meyer, 1990).

6) Sense of Belonging – how a student is integrated into the entire institutional community (Hoffman et al., 2002).

Overview of the Study

The following study is divided up into five chapters. The current chapter, Chapter One, includes an introduction to the study with a statement of the problem and explanation of key concepts. The second chapter is an overview of the literature included in the proposed study, as well as the significance of the study and why it is important to the field. The third chapter provides the methods and procedure for the study, as well as an explanation of the data collection measures and population data were collected. Chapter Four describes and depicts the results of the study, while Chapter Five outlines the discussion of the results, limitations, implications, and conclusions from the study.

Summary

The following study was an evaluation of an exemplary CTE system (TCAT) and the student support services they provided to students. The evaluation facilitated connections between the efficiency and effectiveness of the student support services and how students persisted throughout the programs at the TCAT institutions. The evaluation employed multi-site and multi-sample approach that triangulated data from students, staff, and administration to strengthen the conclusions.

Chapter 2

Literature Review

The focus of the current study is Career and Technical Education (CTE) and student services. The study is a multi-site evaluation of student services in CTE, looking at the services offered and how they help students persist. The current chapter includes a literature review to introduce critical topics central to Career and Technical Education, Student Services, Multi-site Evaluation, and Student Persistence. In order to locate the literature used to inform the study, a thorough search was done using the University of Tennessee Hodges Library and the electronic journal collection. The search started with general information about Career and Technical Education, and then used results from general searches to inform more specific searches. This chapter will also outline the gaps in the literature and the need for the current study. The following sections are included: Introduction to Career and Technical Education (CTE), Student Support Services, The Role of Student Support Services, Student Persistence at CTEs, Understanding Student Persistence in CTE, The Role of Sense of Belonging, Research on Career and Technical Education (CTE), Tennessee Colleges of Applied Technology (TCAT), The Need for Evaluations of Student Services, Gaps in the Literature, Study Purpose and Research Questions.

Introduction to Career and Technical Education (CTE)

Career and Technical Education (CTE) has recently begun to receive much attention in both government and education settings. CTE programs have been recognized as being central to the nation's future economic success and career pathways to help ensure that students are better able to reach their career goals in a more calculated approach, as well as better connect and prepare them for work and life (Dewitt, 2014). With an increased importance of providing

Americans with the skills employers require, as well as the need to match people to good jobs, CTE provides students with the opportunity for more on-the-job training and apprenticeships that connect young workers to careers and provide them with an upward trajectory for their future (Dewitt, 2014). With a noticeable gap between workforce needs and employee preparation, CTE is a pathway to help better prepare employees to meet the needs of employers and communities.

Many students begin making their future plans with the thoughts that four-year universities are the only way to achieve their future goals or continue their education. In high school, many students are focused on college-readiness and this further complicates their exploration of future career options. But, research has shown that both college-readiness and workforce-readiness require the same preparations for life after high-school (ACT, 2008). Many employers have seen that in today's expanding economy, entry-level workers need many of the same skills as those students attending college (ACT, 2008). For some students, choosing a 2-year vocational education is the best option, even though many of them may lack awareness of another path. But for those ready to enter the workforce, specialized training can be received through CTE, helping them achieve employment more quickly and successfully. Students who have participated in CTE programs have a better chance of being employed than those who have not participated in such programs (Rabren, Carpenter, Dunn, & Carney, 2014).

Career and Technical Education (CTE) is an opportunity for students to attend school to gain a certificate in a particular skill that prepares them to enter the workforce immediately. Students gain technical knowledge and skills for specific occupations (Hirschy, Bremer, & Castellano, 2011). As our economy changes, higher education has become even more difficult to access for many groups of students (Rojewski, 2002). Particularly, those such as first-generation college students, those from disadvantaged geographic areas, or those with lower

socioeconomic statuses. Many times, if a four-year university is not a possibility they choose not to attend any type of higher education. But, it is in cases such as this that technical or vocational education could afford the student opportunities to enhance their skills and prepare them for the workforce.

Career and technical education has been influenced by a global economy where economic competiveness is associated with workforce readiness and technology has impacted the nature of the skills that are necessary to be successful and high performing in organizations (Rojewski, 2002). State and federal governments are focusing on student retention and completion in all forms of higher education, as a means of increasing the skills of the workforce in order to better meet the challenges of a global economy (Hirschy et al., 2011). Career and technical education focuses on workforce development and creating a culture in which students gain the necessary skills to be successful and have the opportunity to apply them immediately. According to Rojewski (2002), "Career and technical education stands poised to affect positive change in terms of support, preparation, and guidance in the areas of people's lives likely to be affected by changes in the new economy." (p.15).

CTE programs and institutions across the country offer programs in health care, business and marketing, computer science, engineering and architectural sciences, personal and consumer services, and trade and industry (Levesque, Laird, Hensley, Choy, Cataldi, & Hudson, 2008). According to the National Center for Education Statistics (NCES, 2003) in the 2004-2005 school year more than 2,000 US 2-year institutions awarded a credential in one or more CTE fields of study. The NCES (2003) also reported in that same year that 64% of students seeking associates degree and 81% of students in certificate programs majored in occupational fields.

Technical education conceptually changes the way we have traditionally done things in education, shifting towards the direction of the economy and aligning with the current needs of the work-force. CTE programs are made to meet the needs of the country and the community that surround the program. Many employers today argue that young adults are not equipped with the skills they need to succeed in the 21st century workforce (Harvard Graduate School of Education, 2011). But, CTE allows students the opportunity to be enrolled in higher education while developing skills that allows them to enter the workforce in a way that they can contribute to the local and global economies.

The workforce is ever changing, with the makeup of the working class becoming increasingly different in recent years. In 1973, people with a high-school education or less made up 72% of the nation's workforce (Harvard Graduate School of Education, 2011). By 2007, the percentage of the workforce with a high school education or less had decreased to only 41% (Harvard Graduate School of Education, 2011). Over the past few years, all of the net job growth in America has been generated by positions that require at least some-postsecondary education. At this time, workers with at least some college have become 50% of the workforce. In 2008, workers with bachelor's degrees were making 65% more than those with only high school diplomas, and those with associates degrees were earning 73% more than those who did not complete high school (Harvard Graduate School of Education, 2011).

Student Support Services

Student services at universities were created under the assumption of regulating student behavior through admissions, orientation, advising, and financial aid (Cohen & Brawner, 2003). But over time, student services professionals have worked to help develop student's academic, life, and career goals (Decker, 2013). Student services have now shifted to viewing colleges as

places of learning, versus places of teaching (Decker, 2013). There is currently a need to demonstrate their impact on the success and persistence of students (Helfgot, 2005). Student services can play a role in recruiting students, retaining students, as well as helping them persist throughout their education. In order for student service representatives to fulfill their role, they must be focused on student development.

According to Decker (2013), there are two developmental theories that can guide student development, and be applied to student services. First, William Perry's theory builds upon Piaget's idea of cognitive development. His theory described nine positions that can be broken down into three perspectives: right-wrong to relativism, relativist, and commitments in a relativist world (Perry, 1970). Robert Kegan's developmental theory focused on how consciousness changes over our life span, which could be used to explain the behavior of college students and inform student service professionals as they work with students (Decker, 2013). Kegan (1994) believed that the relationship between individuals and their environment is a very important part of cognitive development. His theory was built on five assumptions: 1) how one constructs experience including thinking, feeling, and relating to others; 2) organization of thinking; 3) a different subject-object relationship is realized in each developmental level; 4) prior orders/levels subsume the prior principle; and 5) the theory allows for movement between orders depending on the context (Kegan, 1994).

Each of the developmental theories allows for students to move from viewing the world as having a single truth, to a complex level of thinking that recognizes their ability to author their own truth (Decker, 2013). The theorists suggest that the greatest potential to affect the development of college students is their transition between the different stages of cognition. Student service professionals must possess awareness of where students' cognition is currently,

while trying to encourage them to participate in higher order thinking (Decker, 2013). This development allows students to develop their own truths, relating their own experience to the world. Decker (2013) provided many examples of ways the theories can be applied to help students move from one stage of development to the next in a community college setting.

Community colleges can use their student services to help students interact with one another outside of the classroom, to help them experience other perspectives as well as express their own. The student services professionals can be advocates for these students, helping them be proactive and become aware of the resources that are available to help them in their academics. For example, among the community college population, 85% of the students are considered nontraditional, being older than the average student and often going to school while supporting families and working full-time jobs (Decker, 2013). Many students don't have the cultural experience necessary to understand the rigorous world of education, with structured teaching and assessment (Valadez, 1993). Many students are placed in low level or even remedial courses, and research indicates that 95% of nontraditional students don't make it past this course (Decker, 2013). These students often don't have the cognitive ability to take action when they begin falling behind, and believe that only the instructors have the authorities to share knowledge. Student services can work with students to help them see that they have knowledge and the ability to think and generate ideas as well. Students need to be aware that their perspective and ideas are valued in the classroom, and that they are an active participant in their own learning (Decker, 2013).

Many community colleges (and technical institutions) are teaching adult learners in an adult learning environment. These adult students have either been outside of education for some time, or have little experience with educational institutions. When the adult students enter

community college, they are very unaware of the rules and organization of their new environment (Decker, 2013). With this new environment, learners have a tendency to revert back to lower levels of their cognitive development. In this case, student service professionals can use their resources to help adult learners think more abstractly and apply concrete ideas to multiple situations (Decker, 2013). The community college can use activities to help adult learners navigate their new environment and apply their rules in different educational settings. For example, an introduction to college course can help these students learn the ins and outs of their new environment, and introduces students to ways to be successful and resources available to them at the institution (Decker, 2013). This offers students a smoother transition to higher education, while encouraging higher order cognitive development.

Finally, Decker (2013) discussed the widespread trend of students enrolling in community colleges with the need to increase their skill level. Student services personnel have the opportunity to use student development theories to help them understand individual students, rather than forcing on strict mold on every student. As students return to higher education, they are coming from a wide range of backgrounds, both demographic and academic. Returning to school to receive new skills challenges students to engage in higher level thinking than they are comfortable with in their current stage of thinking, and this presents an opportunity for student service professionals to encourage and push students to continue the development of their thinking (Perry, 1970; Kegan, 1994). It is up to student services to help make the transition smooth, helping students expand their world view (Decker, 2013).

Student services personnel are now viewing themselves as educators, as they begin to contribute to the learning goals of their respective institutions (Blimling & Whitt, 1999). Incorporating student development theory into their work can allow professionals to promote

active learning experiences to help students become independent thinkers who are in control of their own learning and development (Decker, 2013). Using student-centered practices in their student service approach can create many opportunities for student success on campuses, helping students have the necessary support and resources.

The student centered-approach in student services throughout community colleges can also be applied to technical education models. With the diverse student populations within a technical education model, it is the role of student services to recruit and then retain students at an institution through admissions. The unique model of education in CTE institutions provides additional opportunities for student services personnel to help students develop both academically and personally, while potentially serving as a mentor to the students. They have the necessary information as well as support for students to help them be successful in their education, and even later as they graduate and enter the workplace.

But, it is still necessary that we determine the specific elements of student support services that are working in the TCAT system, as well as what students' report they need or want at their institutions. Although we are aware of the purpose of student support services, it is necessary to be aware of how these services are helping students and how students, staff, and administrators view these services.

The Role of Student Support Services

Students often arrive at an institution of higher learning facing multiple challenges such as inadequate academic preparation, multiple obligations, limited experience in a new environment, and financial persist at limitations (Bettinger, Boatman, & Long, 2013). These issues lend themselves to a low rate of college completion in the United States, where less than 60 percent of students at four-year colleges graduate within six years (Bettinger et al., 2013). In

order to battle the poor preparation of incoming students, many schools have implemented a variety of student support services and programs to help students be successful.

There are multiple support services and programs that schools offer to help students succeed at their institutions. Whether two-year, technical/vocational, or a four-year institution, all institutions face the struggles of student retention. With many institutions facing issues of limited resources and funds, it is necessary that students are supported through programs and services (Bettinger et al., 2013). Institutions offer supports such as 1) remedial courses, 2) summer bridge programs allowing students to slowly transition to their new learning environment and enroll in classes while living on campus the summer before their first semester, 3) learning communities, 4) financial aid, 5) advising, 6) tutoring, 7) mentoring programs, and other programs that help students meet the requirements of their competing responsibilities (Bettinger et al., 2013).

Students face many issues as they begin and work through their college education. In a recent study, Reynolds (2013) collected data on the biggest student concerns in college. Data were collected from student affairs professionals, asking them about the most common and challenging concerns that college students face. This research found that the most frequent concerns ranged from something as simple as time management to more intense issues such as sexual assault. As a part of daily life, concerns such as stress and time management, academic difficulties, and financial concerns were reported most frequently (Reynolds, 2013). As the demands on students increase in higher education, more demands are also placed on student support services to help meet student needs (Reynolds, 2013).

Remedial courses, or developmental courses, are a way to help students develop their skills while beginning college courses. They are the support most widely used by colleges to

address the academic needs of underprepared students (Bettinger et al., 2013). Students facing difficulties in the classroom often become discouraged, complicating their adjustment to their new environment academically, socially, and financially (Bettinger et al., 2013). Also, when students begin struggling academically they can experience low self-esteem, which has a negative effect on dropout rates (Bettinger et al., 2013). Research suggests that more than one-third of all first-year students in four-year colleges today are taking some form of remedial coursework, usually in math or English (Bettinger et al., 2013; National Center for Education Statistics, 2003). To even further meet the needs of underprepared students, many colleges have also implemented summer bridge programs, learning communities, academic counseling or coaching, and tutoring. But research has yet to show any causal relationship between remedial courses and student outcomes, thus, we cannot be sure what these courses are doing for students (Bettinger et al., 2013). At the Tennessee Colleges of Applied Technology, remediation is built into an individual student's curriculum. This approach to remediation makes learning more tailored to the individual needs of the student, rather than creating an environment that feels as though the student is being held back.

Institutions are also providing additional academic supports to help students address the complexity of the college experience (Bettinger et al., 2013). Some research has suggested the best way to do this is through academic advising (Bettinger et al., 2013). College advisors provide support to students in multiple ways such as preparing them for their courses, counsel them on how to improve study skills, or provide advice on how they can identify additional academic resources (Bettinger et al., 2013). Especially in a community college or technical/vocational institution, students are not spending more than two years on campus and need access to this information quickly.

Although student support services are available at all levels of higher education, the formats of programs and services look drastically different at varying institutions. The needs of students at a two-year community college or technical college are not always that of a traditional student population. First-generation students, non-traditional students, and those seeking vocational skills may have different needs and face different difficulties than those enrolled traditionally in a four-year university. Technical institutions offer supports to meet the needs of a diverse array of students, all while meeting the same goal-to retain students until they complete their program. In order to ensure that student services are meeting these needs and helping students persist, more information is necessary to determine what services and supports CTE students need and want, as well as their impressions of services they are currently offered.

Student Persistence at CTEs

As students work their way through higher education, regardless of the type of institution, there is a potential risk of student drop-out. For the past few years, studying student persistence has been a trend in higher education research trying to identify theories to help maintain enrollment at institutions (Bers & Smith, 1991). Much of the research has identified academic and social integration as a reason why students would choose to stay or leave a university, depending upon their level of connection with the university (Bers & Smith, 1991). It has also been suggested that both student intent to stay at the university and their experience at the university effect persistence (Bers & Smith, 1991). Tinto (1975, 1987) has done extensive research on student persistence, claiming that students' academic and social integration at an institution are key factors in their decision to stay or leave.

Bers and Smith (1991) conducted a study to examine the extent to which academic and social integration further the understanding of persistence of two-year college students. The

study was conducted at a midsize suburban community college in the Midwest, with students randomly selected to participate. Students completed an annual Current Student Survey (CSS) about students' objectives in attending the two-year college, future educational plans, future enrollment plans, and a variety of demographic information. The instrument also included a 30-item questionnaire to operationalize the concepts of social and academic integration. Persistence was measured as enrollment from fall to spring. This study supported that two-year college student persistence is based on academic and social integration, educational objectives and a student's intent to re-enroll (Bers & Smith, 1991). Students persistence did differ based on the social and academic integration, but their precollege characteristics were better predictors of their persistence (Bers & Smith, 1991). Bers & Smith (1991) attributed this to the nature of a two-year community college, where some students may not connect to the campus or are not confident in their abilities to succeed academically. Community colleges are committed to helping students succeed, even if the definition of student success looks different from four-year universities.

Another important construct regarding student persistence is student commitment to the institution and the intent to stay enrolled. Tinto (1993) stated that "an institution needs to assess students' intentions to understand its actual attrition rate—the degree to which it has failed to assist students to achieve reasonably held educational goals" (p. 143). A student must be committed to the institution, as well as completing their degree to persist (Tinto, 1975). Bean (1985) has argued that student attrition can be compared to workplace turnover, where committed students stay enrolled much like committed employees stay with the organization. Using the organizational commitment literature, students want to stay enrolled in a university because they have so much invested, have an emotional tie, or couldn't get the same thing

somewhere else (Allen & Meyer, 1992). If a student has intentions to return to a university and is committed to the institution, he or she is more likely to persist (Bers & Smith, 1991; Tinto, 1993).

When examining variables that encourage students to persist in community colleges, Settle (2011) found several variables that contribute to student persistence. Especially when considering first-generation students and first-year students, whom often persist at a much lower level than their counterparts (Settle, 2011). Many institutions provide support for first-year students through financial aid and even some programs for minority students, but new admission and retention strategies are still necessary (Settle, 2011). For first-generation students, those who persisted had friends also attending the institution and social contact with faculty members outside of the classroom (Settle, 2011). Similarly, for continuing-generation students, every student who persisted had friends attending the same institution and had social contact with faculty members outside of the classroom (Settle, 2011). Settle (2011) concluded that the implications of the results of the research needed to be used to make many institutional policy changes. Institutions need student support services and programs that assist students based on their needs, not just their race or socioeconomic status (Settle, 2011). Also, institutions could help student persistence by examining the interactions between faculty and students. Encouraging contact between students and faculty could be a way to support the persistence of students (Settle, 2011).

In another study used to examine student persistence in community colleges, authors looked at factors most likely to influence a student's decision to drop out or persist (Nakajima, Dembo, & Mossler, 2012). After surveying 427 students in a California university, the researchers used post pre-college and college factors to examine student persistence. Their

research revealed that students who earn good grades, are attending college on a full-time basis, and have good English skills are most likely to persist (Nakajima et al., 2012). The results also indicated that GPA was the strongest predictor of student persistence, suggesting that the factors to the student after they enroll in an institution may be more important than any pre-college variable (Nakajima et al., 2012). These conclusions lead one to examine student support services that institutions provide as a way to increase student persistence (Nakajima et al., 2012).

Understanding Student Persistence in CTE

Hirschy and colleagues (2011) identified many variables that contribute to the understanding of the phenomenon of occupational student success in a community college setting. There are many different terms that could be linked to a theoretical model of student success, such as persistence and retention. Persistence refers to the students maintain or completing their enrollment at any postsecondary institution (Hirschy et al., 2011). While retention focuses on the institution's intent to keep students enrolled from one term of study to the next (Hirschy et al., 2011).

According to the literature, student persistence and retention in CTE can be explained through career integration and a student's educational intentions (Pascarella & Chapman 1983; Tinto, 1975). These factors examine student success from both an individual and institutional level (Reason 2009; Terenzini & Reason, 2005). The characteristics of the student are important to this model as well as the college and community environment in which students are placed (Hirschy et al., 2011).

In Tinto's (1993) research, he described colleges as being composed of both academic and social systems. When a student is integrated into each system, the student is meeting the academic requirements of an institution and also a degree of fit with the norms and values of the

institution (Hirschy et al., 2011). Hirschy and colleagues (2011) also hypothesized that as occupational programs leading to certificates and associates degrees typically emphasize the application of skills to an occupation, students in career education programs seek more direct links to their intended career field. They add career integration to Tinto's (1993) social and academic integration, and define it as "the degree to which students experience interaction with career-related activities—in or outside the classroom and on or off campus—and feel a fit with the norms and values of their chosen occupational field" (Hirschy et al., 2011, p.308).

The Role of Sense of Belonging

The connection a student feels to the institution is an important construct to consider when examining student persistence (Morrow & Ackermann, 2012). Student sense of belonging can be seen as a way to measure, or operationalize, social and academic integration. The concept allows us to conceptualize how a student is integrated into the entire institutional community (Hoffman, Richmond, Morrow, & Salamone, 2002). Hoffman and colleagues (2002) have conceptualized sense of belonging as a more refined notion of integration, including all college systems. The literature defines sense of belonging as, "the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment" (Hagerty, Lynch-Sauer, Patusky, Bouwesman, & Collier, 1992, p. 173). But, there are also many different facets of sense of belonging, describing fit and involvement. Researchers have conceptualized sense of belonging as an "aspect of interpersonal relatedness most dissimilar to loneliness and most closely associated with social support" (Hoffman et al., 2002, p. 229). Much research indicates that sense of belonging can produce an increase in students' commitment to their institution, symbolizing student persistence. Sense of belonging can be used to better understand why students persist through, or withdraw from college (Hoffman et al.,

2002). Assessing students' sense of belonging can allow us to design proper interventions to better retain students, as well as identify students at risk of withdrawing (Hoffman et al., 2002). Research has given evidence that sense of belonging is a way to measure students' sense of affiliation and identification with the university community (Hoffman et al., 2002).

Morrow and Ackermann (2012) conducted a study to assess the importance of sense of belonging and motivation in predicting students' intentions to persist at a university. They hypothesized that higher levels of sense of belonging (peer support, faculty support, classroom comfort) and lower levels of perceived isolation are related to a student's self-reported intention to persist (Morrow & Ackermann, 2012). After surveying 156 first-year university students, they found that faculty support was the best predictor of students' intentions to persist (Morrow & Ackermann, 2012).

Van Houtte and Van Maele (2012) reported that students in Technical and Vocational tracks report lower sense of belonging than students in academic programs. This can often be explained through students in vocational tracks developing an anti-school cultural to overcome feeling as though they are in a lesser track than students in traditional four-year programs (Van Houtte & Van Maele, 2012). There can be a stigma associated with vocational education, which research says can lead to student disengagement and poor attitudes towards academics (Van Houtte & Van Maele, 2012). The authors found that the lower reports of sense of belonging can be mitigated through faculty trusting in students (Van Houtte & Van Maele, 2012). Their research aligns with Tinto's (1993) assertion that institutions should be committed to the students they serve, all students they serve rather than just some of their students (Tinto, 1993).

Sense of belonging is viewed as an updated way to measure students' persistence, as well as an updated definition of a students' academic and social integration at an institution. If

students report having social integration through peer support, faculty support, and lack of isolation and academic integration through classroom comfort, it is likely students will persist at an institution. Student support services are provided at institutions to help students persist, but it is necessary that we understand the constructs that underlie student persistence and how student support services affect persistence.

Research on Career and Technical Education (CTE)

CTE helps future employees develop skill sets for their future career, but also resolves a gap between worker skill and workforce needs (Bronson, 2007). There is a notable gap between worker skill and workforce needs. Often even when students go to college, they may be trained theoretically but often depend on employers to give them the skills they need in their jobs. A recent survey of 400 leading American corporations, noted that managers believe 70% of high school graduates lack professionalism and work ethic skills (Bronson, 2007). More than 80% of respondents in the National Association of Manufacturers indicated that they are experience a shortage of qualified workers overall, with 90% of respondents indicating a moderate to severe shortage of qualified skilled production employees (National Association of Manufacturers, 2005). Technical education has the opportunity to decrease the gap between skill sets and workforce success, providing the necessary skills for students to be successful in their careers. Nationally, there are currently 12 million postsecondary students enrolled in a career and technical education program (National Center for Education Statistics, 2009; U.S. Department of Education, 2007-2008).

Enrollment in a career and technical education program has proven to be a valuable experience for many postsecondary students, as they experience increases in earnings and improved employment outcomes (ACTE, 2008). A 2002 study found that a year of technically

oriented coursework at a community college increased the earnings of men by 14% and women by 29% (Jacobson, LaLonde, & Sullivan, 2005). Career and Technical education is a way for students to gain the skills they need for the global workforce or continuing their education, while they gain credentials that can prove their value to employers (Reese, 2011).

In order to understand career and technical education (CTE), we must first understand the characteristics and the needs of the students enrolled in such institutions and programs. The students pursuing associates degrees or occupational certificates differ from students seeking academic majors at two and four year institutions (Hirschy et al., 2011). Understanding this student population is imperative to identifying their needs and improving retention, completion, and placement rates (Hirschy et al., 2011).

In order to begin understanding the student population, the U.S. Department of Education and the National Center for Education Statistics (NCES) examined CTE students from 1990 to 2005. Levesque (2008) and colleagues began to identify the average student population of the institutions. To capture an accurate depiction of the diversity of the population, the study analyzed data from 11 different NCES surveys at approximately 5,700 postsecondary institutions offering career education throughout the United States. According to their data, career and technical education students are more likely to be female, African American, older then 24, married, first-generation college students, and financially independent from their parents (Levesque et al., 2008). They also were more likely than students with academic majors to receive financial aid, work full time, identify themselves as an employee who studies rather than a student who works, and have a GPA of 3.5 or higher (Levesque et al., 2008). Students seeking occupational certificates are less likely to be enrolled part-time, as many of them are required to

complete a certain number of hours to receive a certificate or licensure to practice their trade (Levesque et al., 2008).

The findings of this study begin to point out some unique characteristics of CTE students across the nation, especially ways in which they vary from students enrolled in four-year universities. Knowing facts like that CTE students are usually part-time students working full-time gives administrators clues regarding the needs of students enrolled in their institutions. Beginning to identify the student population enrolled in CTE institutions affords administrators and researchers the opportunity to learn more about the needs of their unique student population. Levesque and colleagues (2008) provide great information about the CTE population from 1990-2005, but more specific investigation should be done in regards to specific regions, states, and institutions so that student services can be adequately designed to meet the needs of students and help them persist throughout their programs.

Tennessee Colleges of Applied Technology (TCAT)

In the state of Tennessee, the Tennessee Colleges of Applied Technology have been recognized for their efforts in helping students achieve higher completion levels (Hyslop & Hemmelman, 2012). Their educational model works to provide technical education and training to students, while meeting the needs of employers in the surrounding communities of each campus. Each campus conducts in-depth research on the surrounding community to determine workforce needs, so that they may design a curriculum specific to the employers and students in the area. The Tennessee system is comprised of 27 campuses (See Table 1 below for list of institutions and locations) across the state, serving approximately 17,000 full-time students on campuses across the state of Tennessee.

Table 1

Tennessee Colleges of Applied Technology Campus Locations and Fall 2014 Enrollment

Campus	Enrollment
Athens	262
Chattanooga	1,242
Covington	268
Crossville	323
Crump	281
Dickson	570
Elizabethton	473
Harriman	239
Hartsville	620
Hohenwald	360
Jacksboro	225
Jackson	847
Knoxville	870
Livingston	892
McKenzie	168
McMinnville	288
Memphis	942
Morristown	594

Table 1. Continued.

Campus	Enrollment
Murfreesboro	3,606
Nashville	935
Newbern	349
Oneida	369
Paris	332
Pulaski	1,016
Ripley	328
Shelbyville	599
Whiteville	355
Total	**17,353**

***Note:** Data are presented alphabetically.

The TCAT system has gained national attention with their graduation and job-placement rates well above the national averages, with graduations rates of 75%, along with a placement rate of 83% (González, 2012). Many other technological institutions across the country are turning to the Tennessee system to observe their academic structure (González, 2012). These achievements can be seen as even more impressive when one considers the student population served at the TCAT campuses, racially and ethnically diverse, low-income, and typically students who tend to struggle in higher education (González, 2012).

The curriculum also embeds remediation into a student's regular schedule. In most higher education settings, students must complete remedial courses before they enroll in their major or program studies. In the TCAT system, students enroll in their program and then take a diagnostic assessment that evaluates them in six different areas. Based on the results of this assessment, students are given an individual learning plan that allows them to address and improve any areas of weakness that have been identified (González, 2012). Individualized learning plans allow for the student to develop their education and skills without feeling as though they are different from their peers, preserving their self-confidence making all coursework a part of their program studies. The purpose of individualized learning plans is to keep students from becoming discouraged by remediation and dropping out (González, 2012).

The TCAT system is focused on competency-based curriculum, where students work to master skills. For example, business-systems-technology students take quizzes and tests, while welding students are evaluated by professors performing certain techniques. The technical education model is based on fulfilling a required number of hours, rather than earning a certain number of credits. They operate under the philosophy that students will learn by doing, at their own pace, with lectures kept at a minimum (González, 2012). The students training at the TCAT is done in a way that mimics the workplace, and creates opportunities for students to apply what they are learning in the classroom.

In order to gain experience in real world settings, students of technical education participate in internships, field work, experiential learning, etc. to practice transferring their skills from the classroom to the workforce. The instructors also play a large part in the learning and success as they come from their respective industries and work closely with an advisory board of business leaders. The instructors work with the board to ensure that the training their students are

receiving matches the needs of the local workforce. Not only do the instructors serve as a resource for students, but their relationships with them as well as the board of directors can afford students the opportunity to make connections with potential employers.

The Need for Evaluations of Student Services

To ensure that the services being offered to students are in fact contributing to positive student outcomes, the programs and services provided must be evaluated. Institutions are responsible for offering programs that are meeting the needs of their student populations, using program evaluation and assessment. In an environment such as the TCAT system, there are multiple institutions spread across the state in which similar student service practices are used. In this case, multi-site evaluation should be used to gather data across sites including multiple samples in data collection.

Multi-site evaluation includes conducting evaluation activities at multiple sites and the implementation of a cross-site evaluation activity (Straw & Herrell, 2002). While evaluating student services in the TCAT system across 27 institutions, multi-site evaluation allows for a comparison of services and their impact across a range of geographical locations (Straw & Herrell, 2002). Using multi-site evaluation allows for data collection at multiple TCAT systems, including multiple samples of students and staff at each institution. With the multiple samples also comes a better chance that an adequate number of participants will be gathered (Straw & Herrell, 2002).

When conducting multi-site evaluations it is important to consider culture. Culture is a part of evaluation from many dimensions, both from the individual participants as well as from the programs and organizations in which they belong (Kirkhart, 2011). Each individual participant in an evaluation holds multiple cultural identifications (Kirkhart, 2011).

Organizations, institutions, and programs have their own values and norms that define their culture, which also play a role in evaluation (Kirkhart, 2011). In multi-site evaluation, culture must be considered in several different contexts. Culture surfaces in project sites, the projects themselves, and the programs (Kirkhart, 2011).

In the TCAT system, culture emerges from several different entities. First, the culture of the organization comes from the Tennessee Board of Regents. The Board is the governing body of the TCAT institutions, where the mission and values of the organization were set. Even though the board is not the subject of the evaluation, they still provide much influence to the individual institutions (Kirkhart, 2011). At the institution level, you have individual cultures for each of the 27 campuses across the state. Also, each of those institutions has students with individual cultures. All of these aspects of the TCAT system must be considered throughout a multi-site evaluation.

Using a multi-site, multi-sample evaluation method allows for evaluators to gather and collect data from multiple groups of participants at multiple locations across the state. As the TCAT provides multiple student services to their students enrolled, each institution may potentially have their own process for providing services. Multi-site evaluation provides the opportunity to observe and learn about the processes and services at each TCAT institution, compare the processes and work to find ways to streamlines these services across institutions. Not only does the multi-site evaluation allow for an examination of the services and how they are provided, but also provides the opportunity to investigate their effectiveness in the eyes of the participants.

Gaps in the Literature

Although much research has been done regarding student persistence, much of the literature has been done in traditional four-year universities or two-year community colleges. The literature lacks research regarding career and technical education, their success, and what we can attribute that success to. Little investigation has been done to examine what is different about the student success in technical education models (Crisp, 2010). Although we are aware that the community college and CTE population is different, the literature has not clearly established what this means in regards to the persistence of students.

There is a lack of research done in Career and Technical Education settings, and therefore a lack of description of the student population enrolled in these programs. Until the student population is defined, we cannot determine the best ways to retain students and help them be successful. In order for the best student support services to be provided, we must first be able to identify the specific populations and then design programs that meet student needs.

There have been mixed results from multiple studies examining factors that affect two-year or non-traditional student's persistence (Bers & Smith, 1991). Most of the student persistence research has been done in regards to traditional college students, at four year institutions (Bers & Smith, 1991). But, as Tinto (1987) has previously warned, we must leery of applying concepts and measures designed for traditional students to nontraditional students (Bers & Smith, 1991). Once again, the student population in Career and Technical Education programs is very different from traditional four-year institution populations, and thus we must make careful considerations when applying implications of research from four-year traditional populations to career and technical programs. There is a clear lack of sense of belonging studies

in the career and technical education populations, leading to a lack of understanding of how it affects CTE student persistence.

Several scholars have suggested that Tinto's (1993) model needs serious revisions to be applicable to higher education today (Deil-Amen, 2011). Even though much previous research has found that both social and academic integration have an effect on student persistence, there is not much evidence to determine the actual relative importance of each form (Pascarella & Terenzini, 1980). Both forms of integration have been connected to student persistence, as well as been seen to be interconnected (Tinto, 1993). In community college research, Deil-Amen (2011) found that social integration looks different than traditional social forms. She found academic integration to be most salient, but also found faculty-student involvement to be imperative (Deil-Amen, 2011). In her research, academic integration took on a more social form than expected (Deil-Amen, 2011). She describes the two terms as two interconnect to distinguish them from one another, thus creating the need to update the constructs measured by integrating the two factors into one term as sense of belonging

In general, there is little research about Career and Technical Education and how it affects or measures student persistence. Especially in the TCAT system, it is clear that students are successful with their high completion and placement rates. What we don't know is how exactly their students are so successful, what makes their model different? We need to learn more about the student services that are offered to CTE students, and the role these services play in their persistence. The current study will allow for an investigation of an exemplary CTE institution system, allowing other systems to emulate the success of the TCAT student services and students.

Students will be asked their opinions and satisfaction of the support services they receive, to begin to define the relationship between TCAT student support services and student success. Using a multi-site, multi-sample design, the student services in each TCAT institution will be evaluated focusing on what services the institutions provide and their role in student persistence. In order to better understand the culture of the TCAT institutions and the student support services they provide, data will also be collected from staff at the institutions and the administrative staff from the TCAT central office.

Study Purpose and Research Questions

The purpose of this study is to evaluate student services in an exemplary CTE institution, the Tennessee Colleges of Applied Technology system. The proposed study addresses the following research questions:

1) How do TCAT student support services contribute to student persistence?
2) How do TCAT students perceive student support services?
    a) Are students satisfied with their experiences at TCAT institutions?
    b) Are the supports provided meeting student needs?
    c) What other types of supports do students need?
3) How do TCAT staff members perceive student support services?
    a) How are student support services helping students?
    b) What types of supports do they believe students need?
    c) In their opinion are the supports provided meeting student needs?
4) How do TCAT administrators perceive student support services?
    a) How should students be supported?
    b) What do they perceive are the needs of students enrolled?

Chapter 3

Method

Study Participants and Design

The current study required multiple participant groups across the twenty-seven TCAT campuses. There were three main groups of participants: the students enrolled in TCAT institutions, the student support staff of the institutions, and the administrators of the TCAT central office. There was an equal chance for all students and staff to participate, based on their enrollment and employment at their TCAT institution. The data were collected with the consent and support of the Vice Chancellor of the TCAT institutions, Dr. James King.

The multi-site evaluation included a multi-method research design with both quantitative and qualitative data collected from multiple populations. Survey research was conducted with both students and staff, and student focus groups, staff interviews and administrator interviews were conducted. Site visits were done at six TCAT institutions. The institutions included in the site visit data collection were chosen based on their regional location and recommendations by the central office administrators. The locations in East Tennessee, Middle Tennessee, and West Tennessee represented a wide array of TCAT programs offered by the system and the different student populations enrolled, as well as various sized institutions.

TCAT Students. All students were recruited to participate through their individual institutions. A letter was emailed to all directors from the Vice Chancellor of the Tennessee Colleges of Applied Technology, Dr. King, giving evidence of his support of the project and encouraging their participation. The directors were given the student survey link to distribute and also any director at a school chosen for a site visit was made aware of that process and that they should select 10-12 students to participate in a focus group. The survey link was distributed to

students, and space and time were provided for them to participate in the survey during their school day. Faculty members also gave students time to participate during class. All students enrolled at TCAT institutions (approximately 17,353 students across all campuses) had access to the link and the opportunity to participate. Out of the 17,353 students enrolled in fall 2014, the total N for the sample was 2,477 (14.3% of the population). Students from twenty-two of the twenty-seven TCAT (81%) institutions participated. The total N for items and construct varies throughout the analyses based on pairwise deletion. See Table 2 for a complete list of schools, with the number of participants and percentage of total participants from each.

Table 2

Number of Student Participants and Percentages by School

School	N	% of Total Participants
Athens	0	0.0
Chattanooga	39	1.7
Covington	61	2.7
Crossville	66	2.9
Crump	96	4.3
Dickson	49	2.2
Elizabethton	67	3.0
Harriman	93	4.1
Hartsville	0	0.0

Table 2. Continued.

School	N	% of Total Participants
Hohenwald	121	5.4
Jacksboro	57	2.5
Jackson	166	7.4
Knoxville	211	9.4
Livingston	0	0.0
McKenzie	69	3.1
McMinnville	39	1.7
Memphis	235	10.4
Morristown	249	11.0
Murfreesboro	216	9.6
Nashville	10	.4
Newbern	38	1.7
Oneida/Huntsville	0	0.0
Paris	57	2.5
Pulaski	89	3.9
Ripley	0	0.0
Shelbyville	97	4.3
Whiteville	129	5.7

***Note:** 115 participants did not indicate which TCAT location they were enrolled.

Most of the student participants reported being enrolled in their very first trimester at their TCAT institution (45.7%), while the other largest majority reported being in their second trimester (24.5%). Additionally, 66.1% of the participants had achieved their high school diploma as the highest degree attained. Over 50% of students reported having a job outside of school (54.1%). Student participants reported paying for their education mostly using Pell Grants (98.4%) and Wilder Naifeh (94.2%) funding (this funding source comes from the Tennessee Lottery scholarship program). The participants self-reported 64.9% as being Caucasian/White, while 22.3% of participants reported their race/ethnicity as Black/African American. The sample was almost equally male and female, with 52.2% of participants being male and 41.5% of participants reporting being female. The majority of participants were 18-30 years old (73.6%). The participant's ages ranged from 16-62, with responses above 62 years considered to be outliers.

The participants of the student focus groups were from the six site visits at TCAT site in East, Middle, and West Tennessee. The focus groups included 10-12 students per location, where students were selected by the directors of the TCAT to best represent their student population and program availability. Steps were taken to maintain students' confidentiality during this process.

TCAT Staff. The staff at all TCAT institutions participated in completing a survey, and staff members at the six site-visit institutions were participants in one-on-one interviews with the principal investigator. The staff members that were included in the study were those in student support services such as, Counselors, Financial Aid Officers, Business Office Staff, Records Keepers, and Assistant Directors. To protect the identity of the participants, they were only asked to provide the location where they were employed and how long they had been employed there.

The directors were sent a letter from Dr. King which indicated his support for the study and asked for their cooperation in data collection. Dr. King supplied the directors with the survey link, and then the directors emailed the link to their staff members. All staff members at the 27 institutions were sent a survey link via email from the directors of their own institutions. The directors of the six institutions selected for site visits scheduled all staff interviews for the principal investigators. Again, no identifying information was collected at the interviews in order to increase participant comfort and secure confidentiality for their responses.

Staff from twenty-one of the twenty-seven institutions participated in the survey (78%), for a total of 264 participants. Refer to Table 3 for a complete list of schools with the number of staff that participated, and the percentage of participants that came from that location.

Table 3

Number of Staff Participants and Percentages by School

School	**N**	**% of Total Participants**
Athens	0	0.0
Chattanooga	10	6.5
Covington	2	1.3
Crossville	13	8.4
Crump	6	3.9
Dickson	8	5.2
Elizabethton	9	5.8

Table 3. Continued.

School	N	% of Participants
Harriman	3	1.9
Hartsville	0	0.0
Hohenwald	4	2.6
Jacksboro	6	3.9
Jackson	7	4.5
Knoxville	11	7.1
Livingston	0	0.0
McKenzie	10	6.5
McMinnville	13	8.4
Memphis	8	5.2
Morristown	6	3.9
Murfreesboro	2	1.3
Nashville	11	7.1
Newbern	0	0.0
Oneida/Huntsville	0	0.0
Paris	9	5.8
Pulaski	8	5.2
Ripley	2	1.3
Shelbyville	0	0.0
Whiteville	6	3.9

***Note:** 109 participants did not indicate the TCAT location where they were employed.

The majority of the staff members that participated in the survey indicated that they had been employed at their institutions for 1-5 years (45.1%), while most other participants reported working at their TCAT for 6-10 years (20.4%).

For the staff member interviews, there was no predetermined number of participants that would be necessary to participate (Hatch, 2002). Each director from the six site visit institutions was asked to schedule 3-5 interviews for their staff members. The student support staff participants at each institution was limited in order to avoid oversaturation (Hatch 2002; Kvale, 1996); directors were asked to include one representative from each of their student services departments (Counseling, Financial Aid, Records, etc.). A constructivist's paradigm was applied, thus, the participants were co-constructors of the knowledge generated in the study (Hatch, 2002). In order to determine how many interviews were necessary, the researcher began with one representative from each department answering the research questions employing Kvale's (1996) method of qualitative research. This method allowed for avoidance of over-saturation of the participants, allowing the researcher to see how the research questions were being answered after each site visit (Hatch, 2002). At the first few site visits, five employees were interviewed. As the site visits progressed, saturation began to be reached and three interviews were conducted for the remaining site visits.

TCAT Administrators. The administrators at the TCAT central office were also participants of the evaluation. This participant group included the Vice Chancellor of the TCAT system (Dr. King), as well as the Associate Vice Chancellor of Operations (Dr. Goodman). The purpose of included the administration was to get a system overview of the student services and the way the institutions are run, and their ideas of what should be occurring in student services. Throughout data collection, the principal investigator would travel to Nashville to visit the

TCAT central office. These meetings would be used to discuss the results as they were occurring and further plan data collection, work out any issues, and discuss the process in general. By keeping the administrators informed, they were able to provide support to the research and also be a part of the data collection. Results were shared, and their opinions were solicited about those results.

Data Collection

Data were collected from multiple samples via multiple data collection methods in order to triangulate the data across sources and identify consistent themes. Triangulation allowed for verification of the information received from participants across sources (Hatch, 2002). Triangulation makes conclusions more sound and trustworthy when data are gathered from multiple sources and samples (Hatch, 2002).

The data collected from all groups were used to answer the research questions. The student survey included multiple constructs, such as satisfaction, sense of belonging, career integration, and institutional commitment to determine how student support services support student persistence through each construct. All data sources were used to evaluate the student services offered to students at the TCAT institutions, the needs of the students, and what the services were doing for the students in terms of their persistence.

Measures and Instruments

Student Survey

The student survey (see Appendix B) included items that were written for the evaluation, as well as items re-worded from pre-validated scales to measure the constructs of sense of belonging, institutional commitment, student satisfaction with the TCAT, and career integration.

Demographics were also collected such as gender, highest degree attained, age, race/ethnicity, institution enrolled, and how they paid for their education to describe the population.

Sense of Belonging. In order to assess students' sense of belonging, the 26-item Sense of Belonging Scale by Hoffman, Richmond, Morrow, and Salomone (2002) was administered. The Sense of Belonging Scale is a reliable measure that (α =.91) included four subscales that measure peer support (α =.87), faculty support (α =.87), perceived isolation (α =.82), and classroom comfort (α =.90). The authors of The Sense of Belonging Scale conducted focus groups prior to the development of the instrument to ensure content and face validity. For the current study, the Sense of Belonging Scale provided high reliability, with high Cronbach's alpha (α) estimates for all subscales, peer support (α=.84), classroom comfort (α=.92), perceived isolation (α=.80), and faculty support (α=.93).

Institutional Commitment. In order to examine institutional commitment, Allen and Meyer's (1990) Organizational Commitment Scale was modified to fit an institutional context to measure both affective and continuance commitment. Affective commitment is defined as an employees' emotional attachment to, identification with, and involvement in an organization (Allen & Meyer, 1990). Continuance commitment is defined as the costs that employees associate with leaving the organization (Allen & Meyer, 1990). These constructs were modified to measure the student's commitment to their institution. The reliability for the affective commitment scale (coefficient alpha) is .87; the affective commitment factor accounted for 58.8% of the variance in the total organizational commitment scale. The reliability for the continuance commitment scale is .75; the continuance commitment factor accounted for 25.8% of the variance in the total organizational commitment scale. In the current data collection, the

reliability for the affective commitment scale (coefficient alpha) was .80; while the reliability estimate (coefficient alpha) for the continuance commitment scale was .67.

Student Satisfaction with TCAT. An instrument to measure satisfaction was developed, as adapted from a training satisfaction scale by Tello, Moscoso, Garcia, and Chaves (2006). The original scale had twelve items with a reliability coefficient of .88. To ensure content validity, the authors had the instrument critiqued by subject matter experts ensuring they were covering the topic in its entirety. They also used a pilot study to decrease the number of items to the twelve that were labeled the most useful by subject matter experts. The wording of the items was changed to infer the TCAT as the context and additional items were added to accurately measure TCAT student satisfaction. The reliability coefficient for this study was .94.

Career Integration. A few items were also included to measure career integration, which examined the following constructs: 1) exposure to intended work environment; 2) interaction with professionals in the field; 3) co-curricular career0related work experiences; 4) career assistance; 5) socialization to professional norms; and 6) industrial advisory boards (Hircshy et al., 2011). These items were written specifically for this study, and have not been put through testing to determine the measurement properties.

Student Focus Group Protocol

The student focus group protocol (see Appendix C) was created by the principal investigator, in order to gain additional information from students about their perspective of the student support services offered at the TCAT institutions, as well as how they felt those services contributed to their persistence. The questions focused on the student support services offered to students at their institutions, the role of instructors in supporting them, the parts of student

services that work best or haven't worked well, if they see any areas for improvement, their satisfaction, and if they need any additional services to be successful at their institution.

Staff Survey

The staff survey (see Appendix D) was also created using items developed by the principal investigator to gain information from staff members about their perspective of the student support services offered at the TCAT institutions, and how they felt those services contributed to student persistence. The questions on the staff survey focused on services offered, the needs of students, how the services helped students persist, as well as how the services affected students' sense of belonging, institutional commitment, career integration, and academic integration. The staff survey also included open-ended questions about the most beneficial services offered to students, as well as if they felt like there was any way that the student services could be improved.

Staff Interview Protocol

The TCAT staff interviews were used as a complimentary data collection method to the staff survey. The interview protocol (see Appendix E) was created to include questions that focused on the student services offered at the TCAT institution, how the services help students be successful, the purpose of student support services, their perception of the services, the role of instructors in supporting students, and how the services meet student needs. The interviews followed the protocol in a semi-structured approach, which allowed the researcher to ask questions in the order that made sense for that particular interview and the flow of conversation (Mason, 2004). This approach was helpful in making the participant more comfortable to communicate and be honest with the researcher.

Administrator Interviews Protocols

The TCAT administrators at central office also participated in the present study through meetings and one-on-one communication. The interview protocol (see Appendix F) included questions that focused on the administrator point of view, with a holistic outlook on student support services from the organizational level. The questions included in the administration interview protocol were general questions about the purpose of providing student support services at the TCAT institutions, and how providing these services contributed to student persistence. These questions served as guidelines while meeting with administrators to gain information to answer the research questions. The interviews occurred as part of regularly scheduled meetings with administrators.

Procedure

Upon receiving approval from the University of Tennessee Institutional Review Board, data collection for the current study began with an initial meeting with the Assistant Vice Chancellor of Operations at the TCAT central office, Dr. Goodman. Dr. Goodman then sent out a letter of support to the directors of the institutions from Dr. King (Vice Chancellor of TCAT) where the procedure was explained to the directors and the survey links were provided to them to distribute to their students and staff. The directors of the institutions where site visits would be conducted were made aware and contacted by the researcher to schedule the visits. The students had access to the survey and link during the school day where time to complete the survey and space was provided to them for their participation in this voluntary survey. The survey link was distributed to staff members through an email communication sent to them by the director of their institution. There were six site visits scheduled and conducted, two in East Tennessee, two in Middle Tennessee, and two in West Tennessee. At each site visit, student focus groups and

staff interviews were conducted according to the schedule created and provided by the directors at each institution. The one-on-one interviews with staff members were 30-45 minutes long, while the student focus groups were all scheduled for 60-minute time slots.

To create buy-in from the participants, a member of the central office staff talked with the directors before the study began and sent communication and reminders to the directors about the study. Dr. Goodman also travelled with the researcher when necessary. It was beneficial during data collection that the principal investigator had previous experience working with the director and assistant directors of each of the twenty-seven locations, which created a trustworthy relationship among the participants and researcher.

Proposed Analyses

The data collected for the proposed study answered the following research questions, employing the following analyses. See Table 4 for further explanation of data collection and analysis methods.

Research Question 1: How do TCAT student support services contribute to student persistence?

To examine this research question, multiple data collection methods were employed to collect data from multiple participant groups with student surveys, student focus groups, staff surveys, and staff interviews.

Student survey. Before analyses began on quantitative student survey data, the data were cleaned using the Twelve Steps of Data Cleaning by Morrow and Skolits (2014). This ensured the data were ready for analyses. The survey was analyzed by determining the frequencies and percentages with which the participants responded to the questions. The Sense of Belonging and Institutional Commitment scales required a composite score or average to be

computed for each participant to determine the overall value of the constructs measured (peer support, classroom comfort, faculty support, perceived isolation, affective commitment, and continuance commitment). The student survey also included qualitative questions that were analyzed and examined. With over 2,000 survey respondents, it was necessary to create a random sample that included 25% of all responses. The random sample was analyzed using N-Vivo qualitative data software. The responses were analyzed and coded to identify prevalent themes throughout the sample.

Student focus groups. The student focus group data were also analyzed using N-Vivo qualitative data analysis software, pulling each transcript into the software where the data were coded. The data were examined to identify re-occurring themes from each of the six student participant groups. Once again, the focus group data were aggregated and then triangulated to identify themes across focus groups. The codebook was used to describe and categorize all students' responses across the six sites.

Staff interviews. The staff interviews were conducted in a one-on-one environment, with a structured protocol used to ask questions to the participants. Each interview was transcribed word-for-word and the transcripts were imported into N-Vivo qualitative analysis software. The analysis consisted of coding the data to identify themes and frequent responses to best describe the data collected.

Staff Survey. Before quantitative analyses began on the staff survey, the data were cleaned using the Twelve Steps of Data Cleaning by Morrow and Skolits (2014). This ensured the data were ready for analyses. The survey was analyzed by determining the frequencies and percentages with which the participants responded to the questions. Only frequencies and percentages were presented run. The survey also included open-ended questions for the staff to

answer. The qualitative data were imported into Microsoft Excel where a random sample of 25% of the responses was created. The random sample was analyzed using N-Vivo qualitative software analysis. The responses were analyzed to identify themes across the sample to best describe the data.

Research Question 2: How do TCAT students perceive student support services?

To answer this research question three sub-questions were addressed: 1) are students satisfied with the student support services?; 2) are the supports provided meeting student needs?; and 3) what other types of supports do student needs?. These sub-questions were addressed from student data sources, through both surveys and focus groups.

Student surveys. Quantitative data collected via the student survey for research question two were cleaned using the 12 Steps of Data Cleaning approach by Morrow and Skolits (2014). Data were checked for missing data, outliers, coding errors, and other issues to ensure it was ready for analysis. Frequencies and percentages will be presented to represent the results.

Student focus groups. The student focus groups were conducted and the data waere transcribed and analyzed. The data were analyzed using N-Vivo qualitative data analysis software where the participant responses were coded and the data was examined for themes that would emerge throughout the analyses. The themes are used to describe the overall responses.

Research Question 3: How do TCAT staff members perceive student support services?

To investigate this research question three sub-questions were addressed: 1) how are student support services helping students?; 2) what types of supports do they believe students need?; and 3) in their opinion are the supports provided meeting student's needs? To answer these sub-questions, staff members participated in both a survey and one-on-one interviews.

Staff survey. The staff survey included both quantitative and qualitative data. The quantitative data were cleaned before beginning analyses using the 12 Steps of Data Cleaning approach proposed by Morrow and Skolits (2014). Once again, the quantitative data provided answers to the research questions through presenting frequencies and percentages.

The qualitative data were collected via staff surveys and one-on-one interviews. The qualitative data on the survey were analyzed using codes to identify themes that emerged from the data. The responses on the interview questions were transcribed, and the data were analyzed using N-Vivo qualitative data analysis software. Through the software, the data were labeled with codes to identify themes that emerged across responses.

Research Question 4: How do TCAT administrators perceive student support services?

To answer the final research question, two sub-questions were addressed: 1) How should students be supported?; and 2) What do they perceived are the needs of the students enrolled?. In order to address these sub-questions, one-on-one meetings and communications with administrators were used. The notes and minutes from these meetings were analyzed. Due to limited number of participants (N=2), thematic analysis was not conducted. See Table 4 below.

Table 4

Data Collection and Analyses by Research Question

Research Question	Data Source	Items	Analyses
1. How do TCAT student support services contribute to student persistence?	Student Surveys Student Focus Group Staff Survey Staff Interview	• Sense of Belonging – 26 items • Perceived Classroom Comfort (4 items) • Perceived Peer Support (8 items) • Perceived Isolation (4 items) • Perceived Faculty Support (10 items) • Institutional Commitment (16 items) • Affective Commitment (8 items) • Continuance Commitment (8 items) • Career Integration (19 items) • How have student support services helped you stay at the TCAT? • Students stay enrolled at TCAT because of the student support services available to them. • Student support services play a role in student persistence at our institutions. • How do you think the student services offered at the TCAT help students persist? • What do you think the purpose of student support services is at your institution?	Descriptive Statistics Qualitative Coding and Thematic Analysis

Table 4. Continued.

Research Question	Data Source	Item	Analyses
2. How do TCAT students perceive student support services? **a. Are students satisfied with their experiences at TCAT institutions?** **b. Are the supports provided meeting student needs?** **c. What other types of supports do students need?**	Student Survey Student Focus Group	• Student Satisfaction (18 items) • What would you say was the biggest strength of the student support services offered to you at the TCAT? • Are there any support services you need in addition to what is currently offered at your TCAT institution? • What part of student support services do you think haven't worked well at your institution? • What part of student support services do you think work the best at your institution? • What is the role of instructors in providing support to students?	Descriptive Statistics Qualitative Coding and Thematic Analysis

Table 4. Continued.

Research Question	Data Source	Items	Analyses
3. How do TCAT staff members perceive student support services? **a. How are student support services helping students?** **b. What types of supports do they believe students need?** **c. In their opinion are the supports provided meeting student needs?**	Staff Survey Staff Interviews	• My institution offers many services that support students. • Students are aware of the resources available to them at their institution. • Students are comfortable coming to staff for help. • Students are satisfied with the support services offered at their institution. • Students need more student support services to be successful. • Students know where to go to find out how to receive support. • Student support services are an important part of our institution. • Are the student support services being offered at your institution meeting student needs? How? • What is the role of instructors in providing support to students? • What would you say is the most beneficial aspect of student support services at your institution? • What aspects of student support services at your TCAT institution need to be improved? • Are there any additional services not offered at your TCAT institution that you think are necessary? If yes, please explain.	Descriptive Statistics Qualitative Coding and Thematic Analysis

Table 4. Continued.

Research Question	Data Source	Items	Analyses
4. How do TCAT administrators perceive student support services? **a. How should students be supported?** **b. What do they perceive are the needs of students enrolled?**	Meetings with Administrators	• How do you think students should be supported at TCAT institutions? • From your perspective, what is the purpose of student support services in the TCAT institutions?	Qualitative Coding and Thematic Analysis

Chapter 4
Results

Data Cleaning

Before data analyses began, the quantitative and qualitative data were cleaned and assessed. For the quantitative survey data (both student and staff), the data were checked for missing cases to ensure that there was less than five percent missing, as suggested by Tabachnick and Fidell (2013). With less than five percent data missing on both surveys, Tabachnick and Fidell (2013) instructs researchers that multiple methods for addressing missing data are appropriate. For the current analyses, pairwise deletion was used to retain as many cases as possible, excluding data only when there was a missing value on a particular measure (Tabachnick & Fidell, 2013).

There were also some glaring errors that were recognized during data cleaning for the staff survey. Some of the schools had more staff survey participants than they had staff at their institution. Thus, the data from several institutions had to be deleted to ensure that only actual staff members were included in the sample. It was obvious that some campuses had most likely mixed up the survey links and had the students complete the staff survey instead of the student survey.

Even though the data were only analyzed using descriptive statistics, the data were also checked for outliers, normality, linearity, and multicollinearity. Outliers were considered to be any value |3.29| standard deviations above or below the mean (Tabachnick & Fidell, 2013). All variables were standardized and searched for outliers with none identified. Histograms were also checked for any data outside the normal curve. Normality was assessed using the values of skewness and kurtosis, considering any value less than |2| to be acceptable (Tabachnick & Fidell, 2013). There were a few variables in the student survey with slight violations of skewness or

kurtosis that noted non-normality. However, with a sample size over 2,000 and descriptive analysis the slight violation of non-normality will not greatly impact the results (Morrow & Skolits, 2014). Bivariate scatterplots were also spot-checked with no evidence of a curvilinear relationship, thus all variables should be correlated in a linear relationship (Tabachnick & Fidell, 2013).

The qualitative data collected through staff interviews, open-ended questions on both staff and student surveys, and student focus groups were also cleaned and checked for errors. Any responses in the student and staff survey that were left blank were deleted from the sample. Also, any spelling errors or grammatical errors throughout the transcripts were corrected for reporting purposes.

Student Support Services and Student Persistence

To address the research question "How does TCAT student support services contribute to student persistence" (R1), data were collected from both students and staff members from twenty-two of the twenty-seven TCAT institutions. Both quantitative and qualitative data were analyzed, from both student and staff surveys as well as student focus groups at six institutions.

Quantitative survey data, as well as open-ended qualitative data were used from the student survey.

Sense of Belonging

One measure of student persistence is sense of belonging, as measured using the Hoffman et al. (2002) Sense of Belonging Scale, which included four subscales Perceived Peer Support, Perceived Classroom Comfort, Perceived Isolation, and Perceived Faculty Support. Each subscale received an individual averaged mean score to produce total Sense of Belonging. Refer to Table 5 for a complete list of Means and Standard Deviations for each subscale

Table 5

Total Sense of Belonging

	N	***M*(SD)**
Peer Support	2411	3.64(.89)
Classroom Comfort	2406	4.18(.93)
Perceived Isolation	2380	1.92(.89)
Faculty Support	2369	3.78(.91)

***Note:** Data are presented in order of analyses.

Collectively, students across all twenty-two TCAT institutions rated perceived classroom comfort the highest (*M*=4.18, *SD*=.93). Students also reported low levels of perceived isolation (*M*=1.92, *SD*=.87). Overall, TCAT students reported positive sense of belonging with each positive subscale (peer support, classroom comfort, and faculty support) being rated above the mid-point of each response scale (>3.00), and negative sense of belonging (perceived isolation) being rated below the mid-point of the response scale (<3.00).

Sense of belonging data were collected from twenty-two of twenty-seven TCAT institutions across the state of Tennessee. Refer to Table 6 for East Tennessee schools, Table 7 for Middle Tennessee schools and Table 8 for West Tennessee schools.

Table 6

Sense of Belonging Means and Standard Deviations for East TN Region

School	N	Peer Support M(SD)	Classroom Comfort M(SD)	Perceived Isolation M(SD)	Faculty Support M(SD)
Chattanooga	51	3.57(.90)	4.14(1.00)	2.01(.87)	3.97(.84)
Crossville	65	3.58(.75)	4.27(.77)	1.85(.70)	3.99(.68)
Elizabethton	67	3.52(.89)	4.12(.94)	2.16(.94)	4.02(.84)
Harriman	89	3.52(.89)	4.12(.94)	1.79(.69)	3.71(.87)
Jacksboro	57	3.71(.92)	4.25(.90)	1.88(.94)	3.94(.92)
Knoxville	211	3.71(.95)	4.10(.96)	1.93(.94)	3.68(.93)
McMinnville	37	3.59(.93)	4.18(.99)	2.23(1.15)	3.75(.91)
Morristown	248	3.80(.86)	4.12(.94)	1.76(.82)	3.92(.88)
Totals	**825**	**3.63(.89)**	**4.16(.93)**	**1.95(.88)**	**3.87(.86)**

***Note:** Data are presented alphabetically by school.

TCAT students in the East Tennessee region reported the highest sense of belonging from the comfort they feel in the classroom with the mean for each school being above 4.00. Students also reported low levels of Perceived Isolation with each school's mean below 2.50. Overall, Eastern Tennessee TCAT students report high sense of belonging with all positive sense of belonging constructs (peer support, classroom comfort, and faculty support) having means above the midpoint (>3.00), and a low level of negative sense of belonging (perceived isolation) with the means being below the midpoint (<3.00).

Table 7

Sense of Belonging Means and Standard Deviations for Middle TN Schools

School	N	Peer Support M(SD)	Classroom Comfort M(SD)	Perceived Isolation M(SD)	Faculty Support M(SD)
Hohenwald	119	3.76(.88)	4.23(.87)	1.84(.90)	3.97(.82)
Murfreesboro	216	3.70(.93)	4.02(1.04)	1.85(.86)	3.49(.98)
Nashville	10	3.43(.82)	4.55(.48)	1.74(.66)	3.74(.70)
Pulaski	88	3.66(.96)	4.28(.92)	1.71(.79)	3.85(.92)
Shelbyville	96	3.68(.79)	4.51(.67)	1.69(.76)	3.90(.85)
Totals	**529**	**3.64(.88)**	**4.32(.80)**	**1.77(.79)**	**3.79(.85)**

***Note:** Data are presented alphabetically by school.

TCAT students in middle Tennessee report having the most sense of belonging from their classroom comfort with each school's mean above 4.00. Students in this region reported the highest amount of classroom comfort of all three regions. The middle Tennessee region also reported the lowest values of perceived isolation of all regions, with all means being below 2.00. Overall, middle Tennessee TCAT students reported high levels of positive sense of belonging constructs, and low levels of the negative sense of belonging constructs.

Table 8

Sense of Belonging Means and Standard Deviations for West TN Region

School	N	Peer Support M(SD)	Classroom Comfort M(SD)	Perceived Isolation M(SD)	Faculty Support M(SD)
Covington	60	3.56(.79)	4.28(.86)	1.91(.80)	4.05(.72)
Crump	96	3.77(.93)	4.19(.93)	1.80(.88)	4.02(.75)
Dickson	49	3.45(.79)	4.34(.81)	1.97(.84)	3.84(.71)
Jackson	165	3.51(.98)	4.14(.97)	1.95(.94)	3.70(.93)
McKenzie	69	3.79(.76)	4.28(.80)	1.82(.83)	4.06(.84)
Memphis	232	3.57(.90)	4.25(.88)	2.14(.91)	3.56(.93)
Newbern	39	3.79(1.00)	4.32(.86)	1.88(.91)	4.02(.96)
Paris	57	3.73(.82)	4.18(.90)	1.87(.87)	3.80(.77)
Whiteville	129	3.48(.78)	4.10(.99)	2.09(.80)	3.58(.96)
Totals	**896**	**3.63(.86)**	**4.23(.89)**	**1.94(.86)**	**3.85(.84)**

***Note:** Data are presented alphabetically by school.

Students in the west Tennessee region reported the highest level of classroom comfort (*M*=4.23, *SD*=.88). Overall, the western Tennessee students reported high levels of the positive constructs of sense of belonging with all means being above the midpoint (>3.00), and low levels of the negative construct of sense of belonging with the mean being below the midpoint (<3.00).

In order to test the statistical significance between students in the East, Middle, and West regions, a One-Way Between-Subjects ANOVA was run. The results are summarized in Table 9 below.

Table 9

Results of One-Way ANOVA for Sense of Belonging and Region

Subscale	***df***	**F**	**η^2**	***p***
Peer Support	2271	2.85	.00	.22
Classroom Comfort	2271	1.52	.00	.06
Perceived Isolation	2247	7.94	.01	.00
Faculty Support	2270	2.18	.00	.04

***Note:** Data are presented in order of analyses.

An analysis of variance showed that the effect of region was significant for the perceived isolation subscale, $F(2, 2270)=7.94$, $p=.000$. Tukey post hoc analyses indicated that perceived isolation was significantly higher in the West region ($M=1.98$, $SD=.88$) than in the Middle region ($M=1.79$, $SD=.84$). Thus, students report lower levels of perceived isolation in Middle Tennessee schools, which produces higher levels of sense of belonging. Even though the faculty support subscale had an alpha at the $p=.40$ level, Tukey post hoc analyses did not show any statistical differences. This is likely inflated due to the large sample size. No other subscale had differences that were statistically significant between regions.

Institutional Commitment

Student persistence was also measured through institutional commitment items. These items were modified from the organizational commitment literature, measuring both affective and continuance commitment. Refer to Table 10 for Institutional Commitment (Affective and Continuance) Means and Standard Deviations for the entire TCAT sample.

Table 10

Total Institutional Commitment

	N	**M(SD)**
Affective Commitment	2357	4.54(1.09)
Continuance Commitment	2343	4.58(1.03)

***Note:** Data are presented in order of analyses.

For the total TCAT sample, students reported high levels of both affective and continuance commitment, with both means being above the midpoint (>4.00). Students exhibit both emotional ties and an investment to their institution.

Institutional commitment means and standard deviations were also broken down by region with East Tennessee in Table 11, Middle Tennessee in Table 12, and West Tennessee in Table 13.

Table 11

Institutional Commitment Means and Standard Deviations for East TN Region

School	N	Affective Commitment M(SD)	Continuance Commitment M(SD)
Chattanooga	53	4.63(.91)	4.66(1.00)
Crossville	65	4.55(1.10)	4.54(.1.19)
Elizabethton	66	4.80(.88)	4.77(.88)
Harriman	92	4.54(1.11)	4.51(.95)
Jacksboro	57	4.82(1.34)	5.02(1.01)
Knoxville	212	4.27(1.02)	4.38(.98)
McMinnville	39	4.50(1.00)	4.52(.86)
Morristown	248	4.71(1.11)	4.72(.98)
Totals	**832**	**4.60(1.06)**	**4.64(.98)**

***Note:** Data are presented alphabetically by school.

East Tennessee students, reported means of commitment above the midpoint on the response scale (>4.00) for both affective and continuance. Jacksboro TCAT students reported the highest level of affective (*M*=4.82, *SD*=1.34) and continuance commitment (*M*=5.02, *SD*=1.01). The majority of students in East Tennessee are experiencing high mean levels of commitment to their TCAT institutions, both affective (*M*=4.60, *SD*=1.06) and continuance (*M*=4.64, *SD*=.98).

Table 12

Institutional Commitment Means and Standard Deviations for Middle TN Region

School	N	Affective Commitment M(SD)	Continuance Commitment M(SD)
Hohenwald	120	4.88(1.04)	4.47(1.00)
Murfreesboro	213	4.19(1.14)	4.39(1.18)
Nashville	10	4.24(1.42)	4.04(1.20)
Pulaski	89	4.60(1.17)	4.49(.99)
Shelbyville	97	4.72(1.08)	4.78(1.05)
Totals	**529**	**4.53(1.17)**	**4.43(1.08)**

***Note:** Data are presented alphabetically by school.

Students in Middle Tennessee reported high levels of affective and continuance commitment, with means being above the midpoint (>4.00). The Hohenwald TCAT reported the highest affective commitment (*M*=4.88, *SD*=1.04), while the Shelbyville campus reported the highest level of continuance commitment (*M*=4.78, *SD*=1.05). Overall, Middle Tennessee TCAT students are experience high mean levels of affective (*M*=4.53, *SD*=1.17) and continuance commitment (*M*=4.43, *SD*=1.08).

Table 13

Institutional Commitment Means and Standard Deviations for West TN Region

School	N	Affective Commitment M(SD)	Continuance Commitment M(SD)
Covington	61	5.02(.99)	4.68(.85)
Crump	96	4.66(1.07)	4.49(1.02)
Dickson	49	4.53(.89)	4.29(1.09)
Jackson	168	4.43(.92)	4.51(.91)
McKenzie	69	5.12(1.05)	4.74(.95)
Memphis	234	4.29(1.17)	4.68(1.10)
Newbern	39	4.63(1.12)	3.79(.83)
Paris	57	4.49(.87)	4.66(1.13)
Whiteville	129	4.55(.95)	4.74(1.03)
Totals	**902**	**4.64(1.00)**	**4.51(.99)**

***Note:** Data are presented alphabetically by school.

Western Tennessee students reported overall high levels of institutional commitment, with both affective and continuance commitment above the midpoint (<4.00). Participants reported high affective commitment (*M*=4.64, *SD*=1.00) and continuance commitment (*M*=4.51, *SD*=.99). The McKenzie TCAT campus reported the highest level of affective (*M*=5.12, *SD*=1.05) and continuance commitment (*M*=4.74, *SD*=.95). In order to further test for significant differences between the regions on the affective and continuance commitment subscales, a one-way between-subjects ANOVA was used. The results are summarized in Table 14.

Table 14

Results of One-Way ANOVA for Institutional Commitment and Region

Subscale	***df***	**F**	**η^2**	***P***
Affective Commitment	2265	.36	.00	.70
Continuance Commitment	2264	3.02	.00	.049

***Note:** Data are presented in order of analyses.

An analysis of variance showed that the effect of region was significant for the continuance commitment subscale, $F(2, 2264)=.36$, $p=.049$. Tukey post hoc analyses indicated that continuance commitment was significantly higher in the West region ($M=4.62$, $SD=1.02$) than in the Middle region ($M=4.49$, $SD=1.09$). Thus, students in the West region reported that they had already invested too much in their education at their TCAT institution to leave at this time, more than students in the Middle region reported. There were no other statistical differences on the subscales according to the regional locations.

Career Integration

Another indicator of student persistence is the construct of career integration. Career integration items looked at the relation of the student's studies to their future careers. This instrument has not been through rigorous measurement testing yet, thus the results are presented for each individual item with the percentage of participants that either agreed or strongly agreed. Refer to Table 15 for the career integration results.

Table 15

Total Career Integration Percentage Agree and Strongly Agree

Item	**N**	**% Agree/Strongly Agree**
My instructor has experience working in the field.	2338	84.0
My instructor is knowledgeable about the field.	2340	83.4
My institution has provided me with skills relevant to my career.	2331	79.3
I have learned about my future career throughout my program.	2334	78.5
My instructor is well connected to other professionals in the field.	2337	78.0
I am aware of the local industries or organizations where my trade would be needed.	2333	75.4
My experiences at my institution have given me the opportunity to learn more about the values of professionals in my field.	2333	75.4
My experiences at my institution have given me the opportunity to learn more about the norms of the field.	2328	75.3
My institution has given me many resources to learn more about my field.	2322	74.7
I am confident in my job skills.	2329	74.3
I feel ready to enter the field upon completion of my program.	2329	73.8
I know where to search for job opportunities.	2333	71.9
Throughout my time at my institution I've been able to gain career related work experience.	2339	71.8

Table 15. Continued.

Item	N	% Agree/Strongly Agree
My institution has given me the necessary exposure to my intended work environment.	2337	71.2
My institution has provided me with assistance for my career.	2335	68.9
I feel well trained to enter the workforce.	2326	67.4
My institution has provided me with services to help me get a position in my field.	2320	66.7
My institution has given me the opportunity to interact with professionals in the field.	2336	65.1
The classrooms at my institution closely model a realistic work setting.	2331	65.1
Average Percentage	**2332.2**	**73.7**

***Note:** Data are presented by percentages.

Overall, TCAT students expressed high levels of career integration, with a mean of 73.7% agreement or strong agreement with the career integration items. TCAT students most strongly agreed with the statements that indicated their instructor had experience working in the field (84.0%) and that their instructors are knowledgeable about the field (83.4%). These statements exhibit the support that students are receiving from their TCAT instructors, which they indicate throughout focus groups and open-ended survey responses are the most helpful part of their experiences at their institutions.

TCAT students overall indicated the lowest amount of agreement with the statements that indicated their institution has given them the opportunity to interact with professionals in the

field (65.1%) and that their classrooms closely model a realistic work setting (65.1%). This is also consistent with other data collected throughout the study, as many students mention their classrooms and equipment needing an update or additional resources to help them learn more about their programs of study.

Student Focus Group Data

In addition to the survey data collected, students at six TCAT institutions also participated in focus groups. During the focus group, the students were asked how student support services at their institution helped them stay enrolled. In order to analyze this data, N-Vivo qualitative software was used. All of the student responses were uploaded in the software and then coded. No themes were developed from this analysis due to the limited number of responses. Refer to Table 16 for student responses to "How have student support services helped you stay enrolled at your TCAT institution?"

Table 16

How Student Support Services Helped you Stay Enrolled at your TCAT Institution

Abbreviated Response	Selected Quotes
Instructor Support	Probably one of the biggest things that's helped me is my teacher. He'll talk to everybody and, you know, see what they can and can't do. And he even tries to find us, like find us jobs before we even get done with school. So that's probably the biggest thing that's helped a lot of people in my class is that they're already ready to get a job by the time they're graduating.
Guided through Obstacles	I know I've come across a couple of hardships and they've pulled together and assisted me, that way I didn't have to leave here and go find work. I could stay and further my education.
They Haven't Helped	I don't think it's them doing their job is what's kept me here.

***Note:** Themes are presented alphabetically.

Students responded that the most impactful ways student support services have helped them was through the support of their instructors. This was an overwhelming response from students. The students indicated that their instructors are there for them way beyond just the instruction they provide. The instructors spend the most time with them on a daily basis, and they really get to know each student and their individualized situations. Students feel as though they can go to their instructors for help, and their instructors have been able to provide the resources and answers they need. Many students reported their instructors having many connections to the industry for their programs, and helped their students gain employment upon graduation from their TCAT institutions.

Many students also noted that they do not think it has been any function of student support services that they have stayed enrolled at their institution. They attribute their success to themselves and do not think student support services have played a role in their persistence. Students do not seem sure about the role of student support services, nor how they are there to help them. They also lack clarity of what can be considered to be student support services.

Staff Member Perspectives

In order to answer research question one, staff perspectives were also included. The staff members across all twenty-seven institutions were surveyed, and select staff at six TCAT institutions participated in an on-site interview for their perspectives to address this research question. Staff members were asked two questions regarding their perceptions about the role of student services. Refer to Table 17 for the staff responses, with the percentage of staff members that agreed or strongly agreed with the statements.

Table 17

Staff Survey Item Responses

Item	**N**	**% Agree and Strongly Agree**
Students stay enrolled at TCAT because of the student support services available to them.	246	54.9
Student support services play a role in student success at our institutions.	245	83.7

***Note:** Data are presented in order of analyses.

Only a little over half of the staff members agreed or strongly agreed with the statement that students stay enrolled at TCAT because of the student support services available to them (54.9%), but they did show a high level of agreement with the statement that student support services play a role in student success at their institutions (83.7%). This is consistent with student responses that they did not feel like their staying enrolled at their institution was due to any student support services that they received. But staff members are reporting conflicting answers to these questions, as they believe that the student support services help students be successful, but they do not report believing that a part of that success is through student's persisting.

Staff members were also asked their opinions about how their perspectives of how student support services offered at their TCAT institutions helped students persist in an open-ended survey question. Due to the volume of staff responses to the survey, all responses were imported into Microsoft Excel where a random sample of 25 percent of the original responses were selected for analysis. All responses in the random sample were exported into N-Vivo qualitative analysis software to further code the responses and search for themes. Refer to Table 18 for themes that emerged from staff responses to the question, "How do you think student services offered at the TCAT help students persist?

Table 18

How do Staff Think Student Services Offered at the TCAT Help Students Persist?

Themes	**Selected Quotes**
Answering Student Questions	I'd say by giving them a place to have their questions answered.

Table 18. Continued.

Themes	Selected Quotes
Availability	We try to always have an open door for the students.
Counseling	I think the biggest asset, at least what I can provide the students through student services, is the counseling. In the area of persistence, showing up on time, making sure that their attendance is within the guidelines and they do not go over their hours unless it's absolutely positively unavoidable, you know, like an appendicitis attack or something to that nature.
Easing Transition	One of the main things that we focus on is trying to make the transition from either being a dislocated worker or a recent high school graduate or whatever background they come from. We try to make that transition as easy as possible
Friendly and Approachable Staff	We're very friendly. I try to be. I'm usually the one that talks to the biggest majority of the students when they come in and ask questions. I do a pre-admission orientation with them. I try to keep on their level. And also, a lot of them come in, they've never been in an institution for higher education. They don't even know what to ask so I try to explain everything so they'll know what they're getting into, even pre-orientation and orientation on the first day. I think it helps to be friendly and have a good relationship with the students where they can come to you.
Going Above and Beyond to Meet Student Needs	I think our Student Services department goes above and beyond just normal, like, helping with financial aid. We have different programs and outside people that help, outside programs that help with, you know, if somebody needs gas vouchers or even food, clothing. And they are really good to set up those connections for the students and to help the students get past the barriers, you know, that they might have to keep coming to school.
One-On-One Approach	We spend one-one-one with students. Whereas other colleges that are bigger might not have, you know the resources or the staff to help students one-on-one like that and students might get looked over. I just feel like, I feel like we spend a lot of one-on-one time with students.
Providing Information	We offer them a wide range of information.

***Note:** Themes are presented alphabetically

From the open-ended responses provided by staff members, there are a wide array of services provided at the TCAT from their personal one-on-one approach to their wide availability that they believe help students persist at their institutions. Overall, it would appear that it is the duties above and beyond the required job responsibilities of the staff that they think help students persist rather than the day-to-day functions of their departments. It is not stated in the job duty of a student support services staff member that they are to always be available to student or that they have to go above and beyond to meet student needs. But, these are the ways that staff members see themselves meeting the needs of students. They report making themselves available for student with an open door policy, and also being friendly and approachable so students feel comfortable asking their questions and seeking advice. But, there is little discussion about formal functions of student support services, such as enrollment, orientation, or financial aid.

Staff members were also asked in one-on-one, on-site interviews about the purpose of student support services at their institutions. After the interviews were concluded, the data were exported to N-Vivo Qualitative Data Software where the responses were coded. Due to the limited number of responses to this question, themes were not created. The data are presented organized by each individual code, which represents the abbreviated response. Refer to Table 19 for responses to the question, “What do you think the purpose of student support services is at your institution?”

Table 19

What do staff members think the purpose of student support services is at their institutions?

Abbreviated Responses	Selected Quotes
Advocate for Students	The student support services department is, to me the backbone of this school, because without our department, we would not be able to, you know, enter information into our database in order for us to get new students in and to be able to, you know, to increase our enrollment and, you know, just whenever they're having problems or, you know, they're having issues with living arrangements or anything in particular, you know, we're their advocate to be able to help them out any way that we can.
First-Contact for Students	Be the first contact with people who want to know about what classes are offered, how to go about applying for the classes. And then I help them through the process of applying for class, keep them notified when their applications are incomplete, things that we need from them. And then just walk them through to the first day of class.
Providing Information	Keep the student well informed.
Student Persistence	I do think that it is to help the students be able to stay in school and to complete and, you know, to help them find employment.
Student Success	Well, I think the purpose of student services is to meet the needs of the student as much as we can to make them successful. To be a successful student and then to go on and get a job successfully in the field that they're pursuing. And I think that's our goal, and it's so wide-ranged that there's -- as many students as we have, there's that many issues that could come up the student's career as a student.
Student Well-Being	To maintain a student's well-being in the class.

***Note:** Responses are presented alphabetically.

From the staff participant responses, student support services are there to be an "advocate" to the students. They are there to support student needs, keep them informed and provide them with resources to help them be successful. Student persistence and success were both mentioned by the participants as the purposes of the function of their departments. One could infer that each of these abbreviated responses point back to student success and persistence. But, again these responses are consistent with previous staff and student responses that there is not a focus on day-to-day or main functions of student support services, such as financial aid or counseling. The staff are focusing more on extra-role duties that they perform to personally help students, reaching beyond just their academic life but also playing a role in their lives outside of school where many of the issues that affect their school lives occur. Staff report the issues that students face being wide-ranged, which student support staff try to help students overcome so that their school life is not negatively affected.

Data Summary

In summary, research question one examined how student support services contributed to student persistence. The data collected provides evidence that students are experiencing high levels of sense of belonging, institutional commitment, and career integration at TCAT institutions. Students overwhelmingly provided evidence that instructors are their largest source of support at their institutions. Students were also asking questions about what student support services were, making it clear that they were not sure what the services are or how they can be used. When asked about student support services, both students and staff were not focused on the day-to-day functions of the department, but rather the extra-role behaviors. Students and staff provide evidence that they are more focused on the individual interactions, rather than the formal activities of the office.

Student Perception of Student Support Services

Research Question 2 focused on student perspectives of the student support services offered to them at their institutions. Both quantitative and qualitative data were collected from students

Student Survey Responses

First, in order to investigate research question two, questions were included on the student survey to ask students level of agreement with items that focused on their satisfaction with their TCAT experience. Student satisfaction items were created specifically for this study, and thus have not gone through rigorous measurement testing at this time. The data are presented for each individual item. Student responses were compiled into Table 20 with the percentage of participants that both agreed and strongly agreed with each item.

Overall, TCAT students seem to be satisfied with their experiences at TCAT institutions in general as well as with the student support services with a mean satisfaction of 77.5%. All but one statement received over 60% in agreement responses. Students indicated the most agreement with the statement “I have learned new skills.” (92.0%), and they indicated the least agreement with the statement “I have received support from a member of the counseling office,” (45.2%). This could be possible due to the role of the counselors at the TCAT institutions. Normally, students will be called into the counselor’s office if they are doing something wrong that needs to be addressed such as getting close to missing too many hours or being tardy too many times. Due to this role, students could see assistance from the counselor as a negative thing, and thus not want to seek help from them.

Consistent with previous responses from students, 67.6% of student participants indicated that they had received support from a faculty member. The responses are also consistent with a

previous lack of use or knowledge of main functions of student support services, with few students agreeing that they had received support from a member of the counseling office, and only 69.8% of student participants reported receiving support from a member of financial aid. Students reported the highest level of agreement with statements focused on instruction and what they were learning. Refer to Table 20 for complete total student satisfaction percentages.

Students were also given the opportunity to answer open-ended questions on the online survey. One open-ended question asked, "What would you say is the biggest strength of student support services at your TCAT institution?" The online survey received over 2,000 student responses, thus due to the volume of data a random sample of 25 percent of the responses selected using Microsoft Excel. The data were then exported into N-Vivo for the coding process to search for themes that emerged throughout the responses. Any theme coded with 10 or fewer responses was not included in the analyses. Also, many participants responded with comments irrelevant to the question, these responses were also removed from analyses.

The themes from the 25 percent of the participant responses are included in Table 21, where they are reported by theme. The table also includes the percentage of responses that were coded with a particular theme, and examples of selected quotes coded in that thematic group.

Table 20

Total Student Satisfaction Percentage Agree and Strongly Agree

Item	**N**	**% Agree/Strongly Agree**
I have learned new skills.	2370	90.0
I enjoy learning about my vocation.	2367	89.9
My classes further my knowledge of my vocation.	2373	87.6
The class assignments further my knowledge of my vocation.	2376	86.4
The class activities further my knowledge of my vocation.	2375	86.4
My program was a useful experience for my vocation.	2362	85.0
I would recommend enrolling in a TCAT to a friend.	2371	82.9
I enjoy my time at the TCAT.	2371	81.5
I am satisfied with my experience at my TCAT institution.	2375	79.9
I looked forward to attending school.	2359	79.1
If given the opportunity, I would enroll at a TCAT again.	2376	77.4
I have received support from a member of the financial aid staff.	2363	69.8
I have received support from a faculty member.	2355	67.6
I am satisfied with the student support services offered to me.	2363	66.9
The student support services available to me have helped me be successful.	2361	62.7
I have received support from a member of the counseling office.	2358	45.2
Average Percentage	**2367.2**	**77.5**

***Note:** Data are presented by percentages.

Table 21

Strength of Student Support Services

Theme	% of Responses Coded in Theme	Selected Quotes
Availability of Student Services	5.0	They are always there to help, no matter what question you have they are there and ready to answer anything. Student services is always available to help me. If I come in needing to speak to a certain person and they may not be there they go out of their way to try and help me with whatever I need. Each member is highly helpful and respectful.
Financial Aid Help	12.0	Financial aid is the biggest thing that helped me here at TCAT. Without it I would not have been able to go to school or afford most of the things that were needed to continue on in the program. The biggest support of the student services office is helping me with my school financial aid situation to help me pay for my education. I certainly do appreciate their help very much. The financial aid. It makes me feel comfortable knowing that my education will be paid for, or most of it.
General Help and Support	16.0	Student services help with any problems that I may have and they are understanding Student support services has been helpful taking time to understand or explain anything I needed help with. They are very friendly and take time out to do their jobs correctly. The biggest strength is that TCAT is there for you in any way you need it.
Instruction	6.0	The biggest strength of the student support offered me is the ability to learn. Hands on teaching, and challenging tests.

Table 21. Continued.

Theme	% of Responses Coded in Theme	Selected Quotes
Instructors	10.0	The instructors are here for us if we need them, and offer encouragement throughout the experience. I can go to my instructor for any type of help that I need without feeling embarrassed or nervous. I believe that the biggest strength of student support services of TCAT is the option to talk and confide in your instructors with a problem you may have.
Not Sure What You Mean by Student Services or I haven't Used Them	11.0	I don't really know what support services are at TCAT. Did not receive any support from the student support service. Do not really know what that is. I can't really say because I have not, to my knowledge, made use of the student support services so far.
Personal Approach with Students	7.0	They really try to understand each situation personally and have great empathy for the things you are going through. They also understand that things can't always be set in stone and every situation is different for every student. Very one on one.
Keeping Students Informed	3.0	They make sure we have all the updated information we need. Keeping students informed about completing their program.
The Staff	4.0	All of the staff is very knowledgeable, helpful, and friendly. They have always took time to help me when I need them. The amount of help offered from the staff.

***Note:** Themes are presented alphabetically.

Students responded to this question most often with responses regarding student services being helpful in general, the financial aid help they had received, as well as the help from instructors. Consistent with other data collected, students are focusing more on the actions of the support staff rather than the roles that they play at the institution. It is not just about the financial aid assistance they are given, but about the personal approach that the staff takes to be available and keep students informed. These responses are also consistent with other data collected with students noting that their instructors are the biggest strength of support at their institution. The students see their instructor as a first line of support to them when they have an issue, due to the fact that they are with them on a daily basis in the classroom.

Students also frequently responded with information that gave evidence that they were not sure what was meant by the term student support services or the fact that they had not ever used any services and did not have any knowledge of them. These data provide evidence that students either are not aware of the services that are available to them, or they just choose to not take advantage of them. There is a clear disconnect between the term student services, and what students understand these to be. Students are reporting that they do not know what student support services are or they have not used the services but they are not indicating why this is the case.

Students were also given the opportunity to answer an open-ended survey question about any additional support services they felt they needed to be successful at their TCAT institutions. Again, the survey included responses from over 2,000 participants. Due to the large volume of data a random sample of 25% of the data was selected using Microsoft Excel. Then, the random sample was exported into N-Vivo Qualitative Data Analyses software where the responses were coded. The coded data was then analyzed for themes that emerged from the responses. Any

theme coded with 10 or less responses was not included in the analyses. Also, many participants responded with comments irrelevant to the question, these responses were also removed from the analyses.

Refer to Table 22 below for a list of themes that emerged from the question, "Are there any support services you need in addition to what is currently offered at your TCAT institution?" The table also includes the percentage of responses coded within that theme, as well as selected quotes to represent each theme.

Overall, an overwhelming number of participants responded with a one-word response to this question of "no" or "none," indicating that they did not believe they needed additional student support services offered to them at this time. Some students even added a positive comment to their no response to indicate that their institution was already meeting all of their needs. There were several resources mentioned throughout the data, but they were only from one or two participants, which provides evidence that they need very little at this time. But, if another need was as priority at this time, according to the student responses additional financial assistance would be the top priority for most other students.

These data are consistent with the fact that the majority of the sample reported that they were in their first trimesters at their TCAT institution. With them not spending much time at their institutions, it is likely that they may not be aware of the services or even know what assistance they need. One would not expect first-year, especially students in their very first trimester to know all the ins and outs of their institution. So, this result may change with additional time spent at the institution.

Table 22

Additional Support Services Needed

Theme	% of Responses Coded in Theme	Selected Quotes
Financial Assistance	5.0	Increased Financial Aid, especially for those who are not enrolling for the first time Greater financial aid support. I often felt that you only received assistance from financial aid if you were a Pell Grant eligible student. Other than, resources were very limited for myself and a few other classmates.
No With a Positive Comment	3.0	I feel that the support services offered at my school do a sufficient job based on our students' needs At the moment, I do believe that everything that needs to be offered, is already offered
No Without Explanation	74.0	One word “no” or “none” responses.

***Note:** Themes are presented alphabetically.

Student Focus Group Responses

To answer research question two, the role of instructors was also addressed. During their focus group sessions, student participants were asked, “What is the role of instructors in providing support to students? “ After the interviews were conducted, the data was exported into N-Vivo Qualitative Data Analysis Software for coding. The data were coded to represent an abbreviated version of the response. No themes emerged for these data, due to the limited number of responses for six student focus groups. The data are presented with the abbreviated

response, or the codes, and selected quotes to represent each response. Refer to Table 23 for a summary of responses.

Table 23

Role of Instructors in Providing Support to Students

Abbreviated Responses	**Selected Quotes**
Answering Student Questions	Basically just answer any question you have. I mean, that's pretty broad but mine's been good about that so far.
Experience in the Field	My experience with my instructors is that everything we go over is directly, absolutely 100 percent relatable to our field of study. And I've not been able to get that at other schools. And they're very knowledgeable about it because they've all been in that field. If they're not currently working, they have extensive background in having done it previously. So it's all geared to what they know we need to know, and making sure we have the information and the skills that we need to be able to go out and do it very well. And they just care, you know, one-on-one or assessing whatever needs you have, they will come to you with that in mind, and I love them. They've got great personalities and they're just really good at what they do.
Support in the Classroom	It's good knowing that you have somebody that can help you if you have -- like if you're in class and you don't understand something or if you need help doing something, you have somebody you can talk to.

***Note:** Themes are presented alphabetically.

All participants responded with information that focused on the way instructors answer student questions, the support they provide in the classroom, as well as the instructor experience in the field as the role of instructors in providing support. Students describe their instructors as the TCAT staff members they spend the most time with, and those that know their situations the

best. In previous questions, students kept referring back to their instructors when discussing how they were helped or supported at their institutions. It is clear that students see their instructors as a student support service at their institutions, and this is not typical of other higher education models. The instructors play a vital role not just in the instruction and training of the students, but they use their skills and knowledge to connect students to the field, and support them through individualized instruction. The instructor is likely to be the first person a student alerts about an issue they have, and with as much direct contact that students have with their instructors it is not surprising that they see them being a main source of the support they receive.

Data Summary

The data collected to address research question two provided evidence that the majority of students are satisfied with their experiences at their TCAT institutions, as well as with student support services. Much like the data collected for research question one, students often referred to the support they were receiving from faculty members at their institutions. The majority of the students agreed that they had received support from a faculty member (67.6%), while less than half of the participants indicated that they had not received support from a member of the counseling office (45.2%). Students also mentioned many strength of the student support services such as financial aid and the instructors. But, many students also indicated that they were not sure what was meant by the term “Student Support Services” or that they had not received support. The participants also indicated that they did not need any additional supports at their TCAT. When asked about the role of instructors, students discussed how their instructors supported them in the classroom, and also how they had experience in their fields.

Staff Perceptions of Student Support Services

Staff Survey Responses

Research question three was focused on staff perspectives of student support services and the resources they are providing to students. To investigate this question, both quantitative and qualitative data were collected from TCAT staff members across the state of Tennessee. First, the staff members answered survey items that asked for their level of agreement regarding statements about student support services and their institution. Again, these items were created specifically for this study and have not been put through measurement testing, thus the results are presented for each individual item. Table 24 refers to the survey items, with the sample size that answered each question with the percentage of participants that agreed and strongly agreed with each item. Staff members reported high mean percentage of agreement or strong agreement with the survey items (77.0%). Participants reported the highest level of agreement with the statement, "My institution offers many services that support students," (91.4%), while they reported the lowest level of agreement with the statement, "Students need more student support services to be successful," (44.3%).

Staff members also indicated that they believe students are aware of the resources available to them, are comfortable coming to staff for help, and that student support services are an important part of their institution. From the staff perspective, students know about the resources and are receiving what they need to be successful at their institutions. But, this is not consistent with what students are reporting that they do not even know what is meant by the term student support services, or that they have never used the services.

Table 24

Staff Survey Item Responses Percentage of Agree or Strongly Agree

Item	N	% Agree and Strongly Agree
My institution offers many services that support students.	246	91.4
Students are aware of the resources available to them at my institution.	246	82.9
Students are comfortable coming to staff for help.	246	84.6
Students are satisfied with the support services offered at my institution.	245	71.9
Students need more student support services to be successful.	246	44.3
Students know where to go to find out how to receive support.	246	77.2
Student support services are an important part of my institution.	244	86.5
Average Percentage	**245.6**	**77.0**

***Note:** Data are presented in order of analyses.

The staff survey also presented staff members with the opportunity to answer open-ended survey questions about student services at their institution. Staff members were asked, "What is the most beneficial aspect of student support services at your institution?" Due to the volume of data from the staff survey with over 200 responses, a random sample of 25% of the responses was created in Microsoft Excel. The random sample was then exported into N-Vivo qualitative analyses software where the data were coded to find themes that emerged from the responses. Any theme that had less than five responses was excluded from the analyses. Table 25 is a summary of the themes that emerged during analysis of the responses to the question, "What is the most beneficial aspect of student support services at your institution?

The staff members feel as though their availability is the most beneficial aspect of the services they provide at their institutions. They celebrate an open-door policy where students do not need appointments to seek their help. They again referred to the personal, one-on-one approach that they take with their students due to the smaller sizes of their institutions. They also discussed financial aid help as a beneficial aspect of the services they provide. Outside of the financial aid help being what they find most beneficial, again the staff are consistently focusing on the process of helping, rather than the direct services that they offer. The data is being used as evidence to show that the staff are less concerned with the services, and more concerned with individual student needs through their availability and personal approach they take with the students.

Staff members were also asked about the aspects of student support services that they thought needed to be improved at their institutions. This question was an open-ended survey item given in the staff survey where they were asked, "What aspects of student support services at your TCAT institution need to be improved?" There was a great response to the staff survey with over 200 responses, thus a random sample of 25% of the responses were included in the analyses. The random sample was exported into N-Vivo Qualitative Analyses Software where each response was coded for analysis. Table 26 provides a summary of the themes that emerged from the analysis and coding of the open-ended survey question, "What aspects of student support services at your TCAT institution need to be improved?"

Staff members were also asked about the aspects of student support services that they thought needed to be improved at their institutions. This question was an open-ended survey item given in the staff survey where they were asked, "What aspects of student support services at your TCAT institution need to be improved?" There was a great response to the staff survey with

over 200 responses, thus a random sample of 25% of the responses were included in the analyses. The random sample was exported into N-Vivo Qualitative Analyses Software where each response was coded for analysis. Table 26 provides a summary of the themes that emerged from the analysis and coding of the open-ended survey question, "What aspects of student support services at your TCAT institution need to be improved?"

Staff members most frequently responded with information regarding customer service, help with job placement, having additional help and resources for staff members, or the fact that they did not feel as though they needed any improvement. Many referred to how understaffed they believe their institution is and how they need additional staff and resources to be able to do their job better. Many responses discussed some way that their services could be improved with additional equipment, resources, or staff members. They gave examples of where many different departments are understaffed, making it difficult to meet the needs of all students. This is also consistent with student responses, where many students talked about needing additional equipment or staff to help their instructors have enough time to do their jobs.

Staff Interviews

The staff members were also interviewed in one-on-one on-site interview sessions at six institutions to ask about their perspectives of student support services. In the interviews they were asked "Are the student support services at your institution meeting student needs? How?" After the interviews concluded, the data were exported into N-Vivo qualitative software where the participants' responses were coded in order to abbreviate the responses. Due to the limited amount of data from the interviews, themes did not emerge in the coding process. Thus, each Abbreviated Response is presented in Table 27 with a selected quote to represent the response.

The staff members gave many different examples of how they felt they were meeting student needs with student services at their institutions. Again, the focus on student success and completion rates was mentioned as being a big part of their daily functions. But, specific to the TCAT institutions they feel that they meet student needs by always being available to students and taking a one-on-one approach with the students. The TCAT staff members feel as though they are meeting student needs through going beyond just their daily job duties and individualizing each student's needs. The nature of TCAT being a smaller institution gives them the ability to individualize what they do for students and take a one-on-one approach to their work. Again, there is less focus on what the departments are actually responsible for, and more focus on how they treat students. With departments performing many different functions and responsibilities, while also solving student issues, this may be a reason why students are not sure about what is meant by student services. Students see these individuals performing all these duties, but they may not be clear on what their actual job duties may be. For example, students report that their instructors are a big support to them even though they are not working in student services. This could complicate the formal vision of student support services, when students are not sure what they include or who they include. Staff members are not reporting that them helping students with financial aid is what is meeting student needs, they are more focused on their interactions with students and how that helps meet student needs.

Like the student focus groups, the staff members were also asked about the role of instructors in providing support to students during their interviews. After the interviews were concluded, the interview data were exported into N-Vivo Qualitative Data Analysis Software where it was coded to best abbreviate their responses. Due to the limited amount of interview

data, no themes emerged and are not presented. Thus, Table 28 provides a summary of the responses by including each code used and a quote to represent each code.

Staff members mentioned multiple roles of instructors in providing support to students. They too referred to the fact that students spend most of their time at a TCAT in the classroom and thus spend the most time with the instructor. The instructor is that first line of support for the students, who know the most about the students. They referred to the main role of the instructor as training and instruction. But, they also want to collaborate with instructors to ensure the students are being successful however they can.

This is consistent with how student see instructors supporting them, by providing them training and instruction while also supporting them in the classroom and with activities such as job placement. The students have a more clearly defined picture of how instructors support them, because they are a participant in that activity. The support staff seem to understand that the instructors do provide support, but they lacked more specific roles that the instructors play in keeping students enrolled at their institutions. They still see their role of support as instructional with most of their activities relating to the classroom or course work.

Data Summary

The data collected to answer research question three provided evidence that TCAT staff members believe that students are aware of student support services, are comfortable using them, and know where to go to find them. But data collected from students indicates that they are not sure what student services are, or how to receive support. Staff members also indicated that they do not see many areas for improvement of student support services, but do believe that students could benefit from providing additional services. Much like the students, the staff members also see the importance of the role of instructors in providing students at TCAT institutions.

Table 25

Most Beneficial Aspect of Student Support Services

Theme	Selected Quotes
Availability	We have an open door policy in that any student can come up at any time to received answers to questions, counseling, help, etc. We strive to give a student to staff member (one on one) immediate attention. We also strive to give each and every student he benefit of the doubt and make them feel respected and also appreciated. The ease of access to the staff because of our location and no appointments are necessary.
Financial Aid	Working with students so that they get all the free aid that is available to them. Financial aid advice and assistance.
Helpful Staff	The staff at my TCAT is the most beneficial in that they are involved with the students concerns and are there to answer any questions. We work well as a team to provide the students what they need to be successful.
Personal Approach	One-on-one interaction with the student on a personal level. Also, being a smaller institution gives us the opportunity to work with students more individually

***Note:** Themes are presented alphabetically.

Table 26

Services that Need Improvement

Theme	Selected Quotes
Customer Service	Customer Service with a smile! Not just a smile on the face, but a smile in the voice, as well. Many students tell us the folks in Student Services are not nice to them. We all need to understand that the students are our customers and without customers –no jobs! Customer services. Be positive and helpful in a friendly way.
Job Placement	I would like to see more job placement opportunities through the student services department. The only thing that I ever hear the student say that we need other than what we already provide is more help with job placement. They always say we need a job placement program to help them after they graduate from our programs.
Additional Help for Staff	The majority of services requested are fielded by the Student Service/Financial Aid Department. Due to small staff, these are not separate offices. With the overwhelming regulations surrounding financial aid, other student services suffer. We are so short staffed. Everyone is trying to do 2+ full time jobs, so it is impossible to do anything really well.
Nothing	I honestly don't feel we need any improvement. All of our staff members have the student's best interest at hand. We all do what we can to assist them in any way possible. I honestly feel we are doing our best to accommodate students.

***Note:** Themes are presented alphabetically.

Table 27

Are Student Support Services Meeting Student Needs?

Abbreviated Responses	Selected Quotes
Availability	We're always here and available for them to be able to come and speak with us about their concerns.
Completion Rates	I think our completion rate pretty much helps answer that. I don't know how we would identify that we weren't meeting them unless, you know, we had some -- like a trend that would that would kind of show or a complaint, which we have had and we try to address quickly.
Consistent Processes	I think we, you know, analyze our processes from time to time to see are we getting the desired outcome with the student, you know. If it's, for example, a tardy issue. Is our current policy meeting the need of the student to correct the behavior so that they can be an employable person one day? That's something that just actually yesterday we addressed in a group meeting and we're going to probably need to change that.
Focus on Student Success	We try to -- whatever is going to help them most to be able to go out and be successful, to get a job. We do try to help.
General Support	I think for the students that come up and ask for our help, we're meeting their needs; I really do. You know, there are situations that, not very many, we're just not able to, you know. But that's a very small percentage.
One-on-One Support	I believe -- really, it's hands-on and it's pretty manageable size groups that allow our student services to actually be a service to the students and it runs the gamut.
Orientation	We meet the needs of the students, we start during orientation. I explain it in detail what's required of them, so that they will know on the way, you know. "I didn't know. Nobody told me that."
Referring to Resources	We have outside agencies that will help with just about anything. We've even had them send them to the doctor if they needed to for a cold or just anything like that. (Name Removed) is really good about having contacts with various organizations.

***Note:** Themes are presented alphabetically.

Table 28

Role of Instructors in Providing Support to Students

Abbreviated Responses	Selected Quotes
First Line of Support	They're the point person. They're the frontline person. They pay attention and alert us to problems that we need to come in and handle. If they've got money problems, if they have social issues, if they have behavioral issues that need another higher, firmer hand to speak to the student about. And then we support them. The instructors can make poor behavior go away for that day, but when they return to the classroom the next day, they're supposed to come to us in student services and we help get them back in the mold they need to be successful.
Job Placement	Other than providing them instruction, one of the main things I like that we do here, especially instructors, is helping with job placement after they're finished. I think that's a huge resource, especially (since) instructors have contacts in those specific fields.
Providing Support	We have really good instructors. They try to get behind the students and see where they're lacking and to see what they can do to help.
Training and Instruction	I think it's mainly the instructor's program to, in fact, instruct, you know, and they are instrumental in the student's success.

***Note:** Responses are presented alphabetically.

Perceptions of TCAT Administrators

Throughout the present study, the researcher spent much time with and around the TCAT Central Office Administrators at the Tennessee Board of Regents in Nashville, TN. The data used to investigate Research Question 4 were numerous one-on-one and groups meetings with administrators, along with the notes and minutes from those meetings as well as email communication.

The primary investigator took notes at all meetings and encounters. As the data came in, the initial results were discussed with administrators. This gave the researcher the opportunity to ask specific questions to address the research questions. Although they were not surprised by any initial results, it also was not clear where some findings were coming from. With 27 institutions across the state to run, the administrators do not have the one-on-one daily contact with students, and thus it can be difficult for them to have the broader perspective. In order to get a holistic perspective of student support services at the TCAT, the meeting notes were inspected to see how the administrators explained the results as they were found. The meeting notes made it clear that the administrators were not clear about the individual functions and student needs at each of the twenty-seven institutions. There was a lack of recurring themes throughout the meeting notes, and this made it difficult to interpret any findings from this data collection.

We initially began this project to try and streamline student support services across the twenty-seven TCAT institutions, learning more about what student support services are doing for their students and their persistence while also knowing more about how students and staff feel about these services. Throughout this process, it became clear that students and staff were providing the most relevant and detailed responses to the research questions because they are the participants with the most contact with the student support services.

The more time I spent with the administrators and the more meetings we had, the more it became clear to me that they were not able to have a clear picture of what each of the TCAT locations student support services were providing, nor did they know how the needs of the students should be addressed. Their responses and reactions provide evidence that with twenty-seven institutions, serving various populations and communities it can be difficult to see the day-to-day functions of each one, especially when these services are not streamlined throughout the

system. The absence of recurring responses or themes is being used as the data to investigate research question four.

Data Summary

The perspective of the administrators provided much evidence for the importance of the current study. With this project, it is hopeful that TCAT institutions can streamline their services across 27 institutions. This streamline will allow administrators to have a bigger overall picture of what is occurring in student services at each TCAT institution. The utilization-focused approach of this evaluation will allow the results to make necessary improvements to help administrators gain additional perspectives.

Summary of Results

Throughout the current study, multiple data collection methods were used in multiple participant groups of students, staff, and administrators. In order to strengthen the conclusions and implications from the study, the data were triangulated and compared against one another to look for consistency or discrepancy across populations. The data provide many consistencies throughout, especially where students and staff shared similar perspectives.

Both students and staff recognized the role that instructors play in student support at the TCAT institutions. Although students were able to more specifically discuss the impact of their instructors on their success, the staff members were also aware of the fact that instructors spend the most time with the students on campus and are the first-line of support for them. The students described their instructors as the thing that has helped them the most and provided the most support, even though their instructors are not formally a part of student support services. Obviously, the staff sees the instruction that the instructor provides as the number one priority of the faculty, but they also see that instructors provide support in the classroom and in job

placement for students looking to enter specific fields. The instructor is the closest tie many students have to their future career, and they are an excellent resource for students as they train to enter the workforce.

Also, as both students and staff members discussed how student support services helps students, neither population discussed the formal activities of student support services (i.e. financial aid, counseling, enrollment, orientation) very often, rather they usually referred to extra-role behaviors of the student support staff. Instead of focusing on the financial aid support that they receive, both participant groups were talking more about their personal interactions. Students discussed the personal approach that the staff members take, while staff discussed the one-on-one attention that students get. Student support staff are focusing more one individual student needs, rather than just occupying their role as a student support staff.

However, there is some discrepancy when looking at if students are aware of the services and using them. Throughout data collection many students were responding to open-ended questions and focus group questions by asking what was meant by the term student support services, or letting the researchers know that they were not sure what was meant by these terms. That made it clear that students may not know about the student support services at their institutions, and if that is the case they definitely are not utilizing these services. Staff members were most likely to respond saying that students were aware of the services and were utilizing them. Many staff members also pointed out that they did not see much place for improvement of the student support services that their institutions offer. Staff members do not seem to be aware of the fact that students may not fully understand what student support services are, nor how they could help them.

Chapter 5

Discussion

The purpose of the present study was to conduct a multi-site and multi-sample evaluation of a Career and Technical Education system with a student persistence lens. The study also examined how the student support services helped students persist at the institutions. Data were triangulated from students and staff to strengthen the conclusions and get an overarching perspective of student services at the TCAT institutions. Several research questions regarding student support services, student persistence and student satisfaction were examined.

Research Question 1: How do TCAT student support services contribute to student persistence?

To address research question one, multiple data collection methods were employed. Survey data were collected from staff and students, as well as qualitative data from student focus groups and staff interviews. Student persistence was measured using multiple constructs that used more current terms from Tinto's model (1993), including sense of belonging, institutional commitment, and career integration. Descriptive statistical analyses were run showing that overall, students reported high levels of positive sense of belonging (classroom comfort, peer support, and faculty support), low levels of perceived isolation, as well as high levels of both affective and continuance commitment. Students also reported high levels of career integration.

According to Tinto (1993) colleges are both academic and social environments. Student sense of belonging is a way that we can understand why students persist through or withdraw from college (Hoffman et al., 2002). Thus, with TCAT students reporting high sense of belonging we can assume that students are feeling a sense of affiliation and identification with their institutions and have more intentions to persist. Also, high levels of sense of belonging can

also signify high academic and social integration at their institution. If student support services are working towards helping a student affiliate and identify with their TCAT institution, one may also find that those services help students experience high sense of belonging and commitment to their institution.

Students were also reporting high levels of commitment to their institution, not just because they have invested so much time into their education at the TCAT institutions but because they value the school that they attend. According to Tinto (1975) a student must be committed to the institution, and to completing their degree in order to persist. With institutional commitment, much like workplace commitment, students who want to stay enrolled at a university are much more likely to persist (Allen & Meyer, 1992; Bers & Smith, 1991; Tinto, 1993). TCAT students are reporting a strong commitment to their institution, thus they are more likely to persist at their institutions.

TCAT students also said that their education was integrating them into their future careers, with high levels of agreement with the career integration items. Career integration is another measure of student persistence according to Hirschy and colleagues (2011). Most career and technical students are searching for links to their intended career field, thus career integration of their education helps them persist at their institution, as they can feel a fit with the norms and values of their chosen occupational field (Hirschy et al., 2011, p. 308). Again, career integration allows students to feel connected to their future career through their institution and thus gives students a reason to persist.

Through the survey data, there is evidence to suggest that students enrolled in TCAT institutions have reason and intent to persist. But, how does this relate back to the student services provided to the students at the TCAT institutions? This question served to examine what

aspects of student services are helping students gain sense of belonging, institutional commitment, and career integration. When asked this question, students were constantly pointing back to their instructors. The instructors are the people they spend the most time with during their TCAT careers, being in a classroom with them for seven hours a day, five days a week. The instructor is that first line of contact for a student, and the person who knows the most about their individual situations from spending so much time together in a classroom. The instructor may not be a member of student services, but from the student perspective their relationships with instructors are a major reason they are able to stay enrolled at their TCAT institution. Students repeated stated that the instructor did much more than instruct them and immediately referred to their instructors when asked what supported them at their institutions. Beyond instructors, most students pointed out that it was not anything student services had done that helped them stay enrolled. Staff members also seem to be under the impression that it isn't particularly anything about student services that help keep students enrolled.

Staff members do believe that student support services help students persist because they are available to assist students at all times, and to perform their support duties. But, they did not provide a real consensus on the role of student services in student persistence. So, it is not exactly clear what student services are setting out to do in order to assist students and help them persist. There also wasn't a clear consensus on the purpose of student services, which creates an issue when you are trying to streamline student services or have any amount of collaboration among departments (Peach, 2005). How do we know the goals they are setting out to accomplish are being met if everyone has different goals for student services? There seems to be lack of communication among student service staff, with no clear idea of what their purpose may be in helping students persist.

Research Question 2: How do TCAT students perceive student support services?

In order to address research question two, again both qualitative and quantitative data were collected. This research question focused on the perspectives of students, gathered from the online student survey and the student focus group conducted at six sites. This question examined student satisfaction with their TCAT experiences, as well as student services. It also asked students about the biggest strength of student services at their institution, if they needed any additional services and what they believed the role of instructors to be in providing support.

Overall, students indicated a pretty high satisfaction level. All questions had percentage of participants that either agreed or strongly agreed being above 60.0%, with the exception of one. Otherwise, students were reporting positive levels of satisfaction with their institution. Student satisfaction can be connected with a positive perception of student support services, especially with 82.9% of participants agreeing or strongly agreeing with the statement that "I am satisfied with my experiences at my TCAT institution," and 66.9% of students indicated that they were satisfied with the student support services offered to them. Although this is a large percentage of students expressing satisfaction, there are still quite a few students who are not satisfied. TCAT should try to appeal to the approximately 35% of students not satisfied, with further data collection to determine their needs and begin to develop strategies to meet those needs (Fike & Fike, 2008).

Students most frequently reported that the biggest strength of student support services at their TCAT institutions were the general help and support they provide, financial aid help, and the instructors. The instructors seem to be a big part of student support at the TCAT institutions with students reporting they were the biggest strength of the support they receive and 67.6% of student respondents agreed or strongly agreed that they had received support from a faculty

member. But, it was also frequently mentioned that students did not know what was meant by the term student support services or they had not used any services provided by their institution. During my focus group sessions, I was also asked this question many times. “What exactly do you mean by student support services?” Either these services are not marketed well or there is a disconnect in what the staff members see as availability and what students see as availability. If students do not know what student support services are, how can they use them effectively? The general lack of knowledge or understanding of student support services could prevent students from seeking help or obtaining services to meet their needs (Schweitzer, 1996).

The students provided evidence that what is helping them at their institutions are not necessarily the daily functions of the student support services personnel, but actually the one-on-one contact they have with them or the situations where personnel have gone above and beyond to help meet the needs of a student. Students provided much evidence to show that they do not feel as though they need any additional services to be successful at this time. But, it is important to note that the majority of students participating in this study were in their first-trimester at their TCAT institution and they may not be aware of the services offered, nor be aware of their needs. In traditional four-year universities success for first-year students is often in terms of how they make the transition to their new student role. There are many internal and external contexts that determine this such as student goals, academic performance, extracurricular activities and their relationships within and outside the college community (Clark, 2005). Student support staff at the TCAT institutions must develop a strategy for their students to begin negotiating this transition, so that they can identify what the student population needs to be successful by being intentional with the support they provide (Clark, 2005).

Overall, the data provides evidence that students do have a positive perception of the support they receive at their institutions, whether they label it as student support services or not. But, it is problematic that students do not know what is meant by student support services. They need to know where to go when they need help, and how those individuals are there to help them. If students do not know what they are, or what they are responsible for, there is little evidence to support they are being used (Schweitzer, 1996).

Research Question 3: How do TCAT staff members perceive student support services?

Research question three focuses on the staff member perceptions of student support services, drawing from both quantitative and qualitative data collected from staff members. Staff members responded to an online survey, and many of them participated in one-on-one, on-site interviews from six institutions. First, to examine staff perspectives they were asked quantitative items to see their general outlook on their institutions and how they support students. Staff members would agree that they think their institution does a good job supporting their students, and that they do not see any additional services that students need. Their responses indicated they believe they are meeting student needs, students know what is available to them, and they are helping students be successful. Although students did report that they were not sure about student support services or what they did for students, they did also report that they did not think they needed any additional services to be successful.

When asked about how they were meeting student needs, there again was a lack of real consensus of what student services were doing to help students. Many of the tasks they mentioned are those responsibilities that they perform as extra-role behaviors, but there is a lack of clarity of what they are hoping to do for students and how they see that being met. The staff members also see that the instructors play a large role in supporting students, but again there is a

lack of real clarity of what their official role may be. When asked about the role of instructors the staff members mentioned how they spend the most time with students and are their first line of support, but they were also limiting that support to just instruction and training. There was also no clear consensus of what their role should be, nor did these match student responses of the role of their instructors from their perspectives. With unclear roles of instructors in providing support to students, there is no way to be sure if they are adequately supporting students in their classes. Instructors also may not be sure of how they are expected to support students, or how they can assist students.

Staff members were also asked about what they saw as the most beneficial aspect of student support services at their instruction. Although there were multiple themes just mentioned a time or two, there were four themes that were overwhelmingly popular across the staff population: availability, financial aid, helpful staff, and personal approach. There were also multiple answers provided when asked about where student services could improve, and what some people saw as a strength others listed as a weakness. The clear themes presented here were customer service, job placement, additional help for staff, and no improvement. Many answers came back to the conclusion that they are understaffed and under resourced. Both students and staff could benefit from better facilities, equipment, more staff, etc. This seemed to be a recurring theme with multiple specific requests for specific needs that could be placed into the additional help for staff category. This seems to be the most glaring unmet need at this time that could be improved to help students be successful and student services personnel do their job to the best of their abilities.

Staff members are very important facets of a student's experience at their institutions and their satisfaction with student support services. They set the tone for the institution, helping

create the culture that students are immersed in while they attend the institution (Thomas, 2002). Student relationships with staff is a predictor of student retention, due to the fact that when students feel the staff value them their experiences are improved (Thomas, 2002). Students who feel respected by staff members, are more likely to take their problems to the staff members (Thomas, 2002). Students' individual relationships and interactions with staff have the ability to shape the students experience and comfort level going to them for assistance while enrolled at their institutions, playing a large role in student persistence (Thomas, 2002).

Research Question 4: How do TCAT administrators perceive student support services?

Throughout multiple conversations, meetings and communications with the administrators working at the TCAT central office, it became clear that they lacked a clear understanding of the purpose of student services. With twenty-seven institutions to oversee and a student information system leaving much to be desired, it is difficult for the central office staff to have much perspective on student services especially without the daily contact with students. Each campus is different with different student populations and different student needs, thus there is almost too much activity going on for them to be able to see it or know about the assistance being provided. Especially as I began to interview staff members and heard about how individualized their student support services are based on their individual student needs, it became clear that the administrative staff had a small perspective of the student needs at each campus and the obstacles that were being overcome to help students meet those needs. There is a lack of administrative perspective regarding student support services, and this is also an unmet need in the TCAT system. Administration provides leadership to the TCAT institutions, providing rules and policies, as well as operations of the institutions. Thus, the administration provides the direction to help the institutions achieve their goals, and creates the vision

(Leithwood & Riehl, 2003). The leadership has significant effects on student learning and other outcomes, and thus it is important the administrators have knowledge of student services in order to create the best environment possible for students (Leithwood & Riehl, 2003).

Limitations of Study

The present study was not without limitations. First, when working with a large amount of participants from multiple different groups it can present many challenges. One major limitation was relying on the schools to distribute the survey link. Due to this factor, the links were switched a few times and the wrong survey was administered. This did cause the loss of some data, but the data had to be removed to keep the data clean and honest. Also, there were a few schools that did not participate and hearing from every single campus would be extremely helpful to gain a more holistic perspective.

The primary investigator had to go through multiple gatekeepers in order to reach the participants. First, the TCAT administrators had to give access to the researcher, and then there were individual gatekeepers at each institution to work with in order to gain access to the student and staff participants. Due to this difficult process and chain of command, full access to participants was not granted and thus the sample of participants may be improved upon with more accessibility. Because the student and staff participants were not communicating directly with the primary researcher, this could also cause some trust issues with participants.

The sample could also be improved with a different mode of administration. Due to the fact that the TCAT institutions do not routinely utilize student emails, there was not an efficient way to email the survey link to the student participants. Although the survey link was distributed on campus, and time and space was provided for them to participate, this could have affected the number of students that chose to participate in the study. With additional time and resources, the

data collection could be more complete with a paper and pencil administration to the larger population (17,353 students).

Also, as the study progressed it became increasingly clear to the researcher that students were not clear on the meaning of student support services. Students were often stopping focus groups to ask what was meant by that term, and what counted as a student support service. This made me question how they were responding to some of the items, and how I had defined student support services for the purpose of this study. Students misunderstanding of student support services or their lack of use are limitations of the present study.

There was also a lack of administrator perspectives to pull from in this study. The study was seeking to gain perspective of the central office administrators, but it was clear that these processes need to be more streamlined before they can really gain a perspective of how these services are helping students. With every campus serving a different student population and meeting a wide variety of student needs, it is hard for them to really know the daily activities of student support services at each of their twenty-seven institutions. They know the policies, but they may not be aware of the everyday functions or individualized situations.

Lastly, the interview data could be described as lacking. It was clear as the interviews were in progress that the staff members were answering in a very restrained manner and could potentially be holding back their true opinions. Some of the interviews were less than fifteen minutes long, due to the lack of answers on the part of the staff members. In the future, an anonymous survey could be much more utilized to gain qualitative information and truly protect the identity of the participants. It was clear that staff members were pretty uncomfortable answering some questions and this impacted the data collected during their interviews.

Practical Implications

The results of the present study have many practical implications for the TCAT system, in both areas for improvement as well as new perspectives to consider. The results indicate that students are satisfied, and it is clear that they are staying at TCAT and finishing their programs. But, there are also some glaring issues that should be addressed to help make their experiences even better. First, a more clearly defined role and purpose of student support services for TCAT should be created and implemented system wide. Students and staff are providing very different perspectives of what student services may be, and many students are not even aware that these services exist. Without awareness of the services, the students cannot use the services (Schweitzer, 1996). Although students are told about the supports available to them at orientation, and this is a common model in higher education, it is apparent that this strategy is not proving effective in awareness of resources (Schweitzer, 1996).

Without a consensus of what student support services are supposed to be accomplishing, it is unclear if they are aware if they are meeting those goals (Fike & Fike, 2008; Schweitzer, 1996). With confusion among staff about what their goals and tasks are, it is easy to understand why students may not be sure what the purpose of student support services is, or even know that the services exist. The purpose and mission of the department needs to be clear across the system, this way staff members know they are doing their job and accomplishing those goals while students are also clear of the responsibility of student support services. Participating in student support services, such as financial aid, has been seen as a predictor of student persistence, thus it is important that these services are being offered to student in a way that helps students meet their needs (Fike & Fike, 2008).

The data provides evidence that first-year students need assistance in helping them understand what they need during their transition to higher education. The student support services staff can be utilized in helping students develop intentional plans for their success, identifying their needs to help them persist (Clark, 2005). Since many students noted that they did not know of anything else they needed, it could be possible that the first-year, first-trimester students that participated in this study do not know their needs at this point in their educational career. It could be a worthwhile investment to begin assessing students in the beginning and requiring a first-year course or study skills seminar to introduce them to their new learning environment so they have more awareness of what they need to be successful (Windham, Rehfuss, Williams, Pugh, & Tincher-Ladner, 2014). Study Skills courses have been seen as a way to increase first-year student success in community colleges and this may translate well into the CTE sector (Windham et al., 2014).

Although there is a need to take an individualized approach with meeting student needs, this seems to be a little too subjective at times and could keep student service staff away from their daily tasks and keep them from meeting as many student needs as they could. How are students going to know about student support services if they do not know what needs they may have? Many students attending TCAT are first-generation, and have never attended higher education before. Thus, there needs to be a more population wide approach to meeting the needs of many rather than tending to the specialized needs of one or two students in particular situations. The TCAT institutions must work to meet the needs of the greater student population, but they first must be able to identify these needs (Fike & Fike, 2008). Assessments and data should be used to guide institutional decisions to support the persistence and retention goals of the institutions (Fike & Fike, 2008). Interventions should be tailored specifically to each

institution, and then evaluation activities much like the current study should be continued to make sure they are meeting the unique needs of each student population (Fike & Fike, 2008).

The TCAT system would also benefit from an improved system-wide communication system. This communication needs to occur among student support staff, different departments, staff and faculty, as well as between campuses and central office. The disconnect that is occurring when it comes to what the purpose of student services may be could potentially be decreased by this enhanced communication. An improved student information system will do a lot to aid this communication, giving staff and faculty a place to note their approaches with students and what they have done to help them thus far. Student information systems are seen as a way to increase student focus, retention, student data and process management, increased student loyalty, and satisfaction with the college's programs and services (Seeman & O'Hara, 2006). This can be documented for all staff and faculty to see, and then can also be pulled at a central administrator level. There has to be a better understanding of how staff and faculty can collaborate to help students, rather than working from two different angles. Better information systems will allow increased communication and better student services, as well as an improved relationship between students and institutions (Seeman & O'Hara, 2006).

Last, it is clear that instructors play a large role in student support according to both students and staff. But, it is also clear that their official role is very blurred. Students are looking to their instructors to provide them support, so it would be helpful to have a formally defined role for instructors in providing support to students. This way, all students can benefit from the support of instructors and instructors are formally made a part of the process of providing support. As students work their way their college, many would report that course work would be

their greatest concern, thus why students rely so heavily on instructors to support them (Schweitzer, 1996).

The current study also provides practical implications for future evaluations within the CTE setting. The current study employed a utilization-focused approach to the evaluation, providing a conceptual framework for the use of results and continuation of the evaluation process. The TCAT institutions cannot make decisions about what they are doing for their students without the results of the evaluation. Evaluation is an activity that allows for the determination of merit, worth, value, or significance of the students support services (Patton, 2011). This evaluation was designed in a way that would allow for the utilization of results. The data were collected in a way that they can be disseminated to the TCAT administration, and changes can be made to make necessary improvements. The primary investigator will be disseminating the results via reports, presentations, and meetings in order to create an action plan that will allow the TCAT institutions to best utilized the results of the current study, and continue the evaluation and research process in the future.

Future Research in Career and Technical Education Settings

At the conclusion of this study, there are many directions to be applied to future research in Career and Technical Education settings. First, given the large amount of the population in the current study that reported being in their first-trimester at their TCAT institution, they also reported they did not need additional resources at this time. It is likely that students in their first-trimester are not even sure what they need at this point, thus it would be helpful to look further into the difference of student support needs from first-year and students at the end of their programs. It is also likely that students beginning their programs, and students coming to the end

of their programs experience different needs and this information could be helpful to student support service staff members in developing interventions and programs.

A future direction that would be worthwhile to pursue be a longitudinal study examining student services and linking those to graduation and career outcomes, going beyond just student persistence throughout their education. This study would allow researchers to investigate how student support services can potentially help students graduate, and even be successful in their careers. This study would also help student support services administrators design programs that are best for helping their students achieve their goals.

Conclusions

The current study provides much evidence that the TCAT system is an exemplary system of Career and Technical education. Data was collected from multiple sites and samples to allow for a holistic picture of how students are being assisted by student support services. The study lends evidence to the fact that students are being successful and supported, while explaining how students and staff believe student support services are contributing to their success and persistence.

Students are reporting intentions to persist through their positive sense of belonging, institutional commitment and career integration. Students give evidence that they do have reason and intent to persist at TCAT institutions, which speaks to their high retention, completion, and placement rates. Students are being satisfied and their needs are being met, with the majority of students indicating that they do not need any additional services to be successful at their institution.

Also, it is clear that instructors are vital to the support students receive in the TCAT system. The instructors may not be a piece of the support puzzle in the traditional world of

higher education, but in the career and technical education world the instructors are with the students the most of anyone at the institution. They are with students seven hours a day, five days a week. They know the most about individual students situations, as they are working through individualized instruction for their students. They have the opportunity to build the closest relationships with students and many students are viewing them as the largest source of support at their institution. Future research should focus on role of instructors in this support model and how they contribute to student persistence.

Lastly, for TCAT students it is obvious that financial aid is one of the biggest concerns they face. This is what they report needing the most help with, whether that be help paying for school, help getting assistance, filling out paperwork, budgeting, understanding the processes, etc. Students just need financial aid assistance, and this may be an area where TCAT institutions can improve in general. Not just in providing supports to students, but in being more proactive from the beginning. Receiving financial aid is a predictor of student persistence, thus it should be major focus in supporting students (Fike & Fike, 2008).

How a student transitions to and through higher education is extremely important to their success, and a smooth transition does not occur all on its own (Clark, 2005). It is a strategy that the students should build with student support staff, helping students overcome obstacles and pursue their goals (Clark, 2005). Student support services is there to help students overcome obstacles and respond well to challenges, and with a focus on these activities comes a focus on student persistence (Clark, 2005).

This study provides additional evidence that TCAT institutions are meeting the needs of their students. We also see that the needs of CTE students are very different from those of traditional higher education students. The current research allows us to examine an exemplary

system, and learn from how they are helping their students persist. In a customer service minded area, student support services exist as a function because the institution has students enrolled. With this information, TCAT institutions can use their student services to ensure students are successful and finishing their education. Without students enrolled at their institutions, the institutions do not exist. Other CTE systems around the country can use the information provided throughout this study to improve their own programs and supports, so they too can have the success of the TCAT system.

List of References

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology,* 63, 1-18. doi: 10.1111/j.2044-8325.1990.tb00506.x

Association for Career & Technical Education (2008). The value of CTE. *Techniques: Connecting Education & Careers,* 50-53. Retrieved from http://www.acteonline.org.

Baker, V. L., & Griffin, K. A. (2010). Beyond mentoring and advising: Toward understand the role of faculty "developers" in student success. *About Campus, 14*(6), 2-8. doi: 10.1002/abc.20002

Bean, J. P. (1985). Interaction effects based on class level in an explanatory model of college dropout syndrome. *American Educational Research Journal., 22,* 35-64. doi: 10.3102/00028312022001035

Bers, T. H., & Smith K. E. (1991). Persistence of community college students: The influence of student intent and academic and social integration. *Research in Higher Education, 32*(5), 539-556. doi: 10.1007/BF00992627

Bettinger, E. P., Boatman, A., & Long, B. T. (2013). Student supports: Developmental education and other academic programs. *The Future of Children*, *23*(1), 93-115. Retrieved from http://futureofchildren.org/publications/journals/article/index.xml?journalid=79&articleid=582

Blimling, G. S., & Whitt, E. J. (1999). *Good practice in student affairs: Principles to foster student learning.* San Francisco, CA: Jossey-Bass.

Bronson, E. (2007). Helping CTE students learn their potential. *Techniques: Connecting Education & Careers,* 30-31. Retrieved from http://www.acteonline.org

Campbell, C. M., Smith, M., Dugan, J. P., & Komives, S. R. (2012). Mentors and college student leadership outcomes: The importance of position and process. *The Review of Higher Education, 34*(4), 595-625. doi: 10.1353/rhe.2012.0037

Campbell, T. A., & Campbell, D. E. (1997). Faculty mentor programs: effects on academic performance and retention. *Research in Higher Education, 35*(6), 727-742. doi: 10.1023/A:1024911904627

Clark, M. R. (2005). Negotiating the freshman year: Challenges and strategies among first-year college students. *Journal of College Student Development, 46*(3), 296-316. doi: 10.1353/csd.2005.0022

Cohen, A. M. & Brawer, F. B. (2003). *The American community college.* San Fransisco, CA: Jossey-Bass.

Crisp, G. (2010). The impact of mentoring on the success of community college students. *The review of higher education 34*(1), 39-60. doi: 10.1353/rhe.2010.0003

Crosby, F. J. (1999). The developing literature on developmental relationships. In A. J. Murrell, F.J. Crosy, & R. J. Ely (Eds.), *Mentoring dilemmas: Developmental relationships within multicultural organizations* (pp.3.20). Hillsdale, NJ: Lawrence Erlbaum.

Decker, A. (2013). Student-centered practice in the 21st century community college. *Community College Journal of Research and Practice, 37*(7), 561-565. doi: 10.1080/10668921003676946

Deil-Amen, R. (2011). Socio-academic integrative moments: Rethinking academic and social integration among two-year college students in career-related programs. *The Journal of Higher Education, 82*(1), 54-91. doi: 10.1353/jhe.2011.0000

DeWitt, S. (2014). Moving from CTE recognition to CTE understanding. *Connecting Education & Careers,* 12-13. Retrieved from http://acteonline.org

Fike, D. S., & Fike, R. (2008). Predictors of first-year student retention in the community college. *Community College Review, 36*(2), 68-88. doi: 10.1177/0091552108320222

Gonzalez, J. (2012). Less choice, more structure for students: In a Tennessee system, it works. *Chronicle of Higher Education, 58(*42), A12-A13. Retrieved from http://chronicle.com/article/Less-Choice-More-Structure/133193/

Hagarty, B. M. K., Lynch-Sauer, J., Patusky, K., Bouwseman, M., & Collier, P. (1992). Sense of belonging: A vital mental health concept. *Archives of Psychiatric Nursing, 6,* 172-177. doi: 10.1016/0883-9417(92)90028-H

Harvard Graduate School of Education (2011). Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century. *The Road to an American Solution,* 1-44. Retrieved from http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperity_Feb2011.pdf

Hatch, J. A. (2002). *Doing qualitative research in education settings.* New York, NY: State University of New York Press.

Helfgot, S. R. (2005). Core values and major issues in student affairs practice: What really matters? *New Directions for Community Colleges, 121,* 5-18. doi: 10.1002/cc.202

Hirschy, A. S., Bremer, C. D., & Castellano, M. (2011). Career and technical education (CTE) student success in community colleges: A conceptual model. *Community College Review, 39*(3), 296-318. doi: 10.1177/0091552111416349

Hoffman, M., Richmond, J., Morrow, J., & Salomone, K., (2002). Investigating "sense of belonging" in first-year college students. *Journal of College Student Retention, 4*(3), 227-256. doi: 10.2190/DRYC-CXQ9-JQ8V-HT4V

Houtte, M. V., & Maele, D. V. (2012). Students' sense of belonging in technical/vocational schools versus academic schools: The mediating role of faculty trust in students. *Teachers College Record, 114,* 1-36. Retrieved from http://www.tcrecord.org/library/content.asp?contentid=16467

Hyslop, A. & Hemmelman, C. (2012). Programs that work. *Techniques: Connecting Education & Careers,* 23-25. Retrieved from http://www.acteonline.org

Jacobson, L, LaLonde, R., & Sullivan, D. G. (2005). Estimating the returns to community college schooling for displaced workers. *Journal of Econometrics, 125*(2005), 271-304. Retrieved from http://repec.iza.org/dp1017.pdf

Kahveci, A., Southerland, S. A., & Gilmer, P. J. (2006). Retaining undergraduate women in science, mathematics, and engineering. *Journal of College Science Teaching, 36*(3), 34-38. Retrieved from http://www.nsta.org/main/news/stories/journal_archive_date_list.php?category_ID=89&issue_ID=994

Kegan, R. (1994). *In over our heads: The mental demands of modern life.* Cambridge, MA: Harvard University Press.

Kirkhart, K. E. (2011). Culture and influence in multisite evaluation. In J. A. King & F. Lawrenz (Eds.), *Multisite evaluation practice: Lessons and reflections from four cases. New Directions for Evaluation, 129,* 73-85.

Kram, K. E. (1985). Improving the mentoring process. *Training and Development Journal, 39*(4), 40-43. Retrieved from http://psycnet.apa.org/psycinfo/1985-24008-001

Kvale, S. (1996). *InterViews: An introduction to qualitative research interviewing.* Thousand Oaks, CA: Sage Publications.

Leithwood, K. A., & Riehl, C. (2003). *What we know about successful school leadership.* Philadelphia, PA: Laboratory for Student Success, Temple University.

Levesque, K., Laird, J., Hensley, E., Choy, S. P., Cataldi, E. F., and Hudson, L. (2008). Career and technical education in the United States: 1990 to 2005 (NCES 2008-035). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from http://nces.ed.gov/pubs2008/2008035.pdf.

Light, R. J. (2001). *Making the most of college.* Cambridge, MA: Harvard University Press.

Luna, G., & Cullen, D. L. (1995). Empowering the faculty: Mentoring redirected and renewed. *ASHE-ERIC High Education Reports, 3,* 1-87. Retrieved from http://files.eric.ed.gov/fulltext/ED399888.pdf

Mason, J. (2004). Semi-structured interview. In M. Lewis-Beck, A. Bryman, & T. Liao (Eds.), *Encyclopedia of social science research methods.* Thousand Oaks, CA: Sage Publications, Inc. doi: http://dx.doi.org/10.4135/9781412950589.n909

Morrow, J. A., & Ackermann, M. E. (2012). Intention to persist and retention of first-year students: The importance of motivation and sense of belonging. *College Student Journal, 46*(3), 483-491.

Morrow, J. A., & Skolits, G. S. (2014). Twelve steps of data cleaning: Strategies for dealing with dirty evaluation data. Workshop presented at American Evaluation Conference Annual Conference. Denver, CO.

Nakajima, M. A., Dembo, M. H., & Mossler, R. (2012). Student persistence in community colleges. *Community College Journal of Research and Practice*, *36*, 591-613. doi: 10.1080/10668920903054931

National Association of Manufactures (2005). Skills gap 2005. Retrieved from: www.nam.org/s_nam/bin.asp?CID=2-2426&DID=235731&DOC=FILE.PDF.

National Center for Education Statistics (2003). *Remedial education by degree-granting postsecondary institutions in fall 2000.* Washington: U. S. Department of Education. Retrieved from http://inpathways.net/remedial_ed.pdf

Nora, A. (2003). Access to higher education for Hispanic students: Real or illusory? In J. Castellanos & L. Jones (Eds.), *The majority in the minority: Expanding the representation of Latina/o faculty, administrators and students in higher education* (pp. 47-68. Herndon, VA: Stylus Publishing.

Pascarella, E. T., & Chapman, D. W. (1983). A multiinstitutional, path analytic validation of Tintos model of college withdrawal. *American Educational Research Journal, 20*(1), 87-102. doi: 10.3102/00028312020001087

Pascarella, E., & Terenzini, P. (1980). Predicting freshman persistence and voluntary dropout decisions from a theoretical model. *Journal of Higher Education, 24*(1), 47-71. doi: 10.2307/1981125

Patton, M E. (2011). *Essentials of utilization-focused evaluation.* Thousand Oaks, CA: Sage Publications.

Peach, D. (2005). Ensuring student success: The role of support services in improving the quality of the student learning experience. *Studies in Learning, Evaluation, Innovation and Development, 2*(3), 1-15. Retrieved from: http://eprints.qut.edu.au/44161/

Perry, W. (1970). *Forms of intellectual and ethical development during the college years.* New York, NY: Holt, Reinhart and Winston.

Rabren, K., Carpenter, J., Dunn, C., & Carney, J. S. (2014). Actions against poverty: The impact of career technical education. *Career Development and Transition for Exceptional Individuals, 37*(1), 29-39. doi: 10.1177/2165143414522091

Reason, R. D. (2009). An examination of persistence research through the lens of a comprehensive conceptual framework. *Journal of College Student Development, 50,* 659-682. doi: 10.1353/csd.0.0098

Reese, S. (2011). Credentialing certifies success. *Techniques: Connecting Education & Careers,* 21-25. Retrieved from http://www.acteonline.org

Reynolds, A. L. (2013). College student concerns: Perceptions of student affairs practitioners. *Journal of College Student Development, 54*(1). doi: 10.1353/csd.2013.0001

Rojewski, J. W. (2002). Preparing the workforce of tomorrow: A conceptual framework for career and technical education. *Journal of Vocational Education Research, 270*(1), 7-35. Retrieved from http://files.eric.ed.gov/fulltext/ED461771.pdf

Rose, G. L. (2003). Enhancement of mentor selection using the ideal mentor scale. *Research in Higher Education, 44*(4), 474-494. doi: 10.1023/A:1024289000849

Seeman, E. D., & O'Hara, M. (2006). Customer relationship management in higher education: Using student information systems to improve the student-school relationship. *Campus-Wide Information Systems, 23*(1), 24-34. doi: 10.1108/10650740610639714

Schweitzer, R. D. (1996). Problems and awareness of support services among students at an urban Australian university. *Journal of American College Health, 45*(1), 73-77. doi: 10.1080/07448481.1996.9936865

Settle, J. S. (2011). Variables that encourage students to persist in community colleges. *Community College Journal of Research and Practice, 35,* 281-300. doi: 10.1080/10668920701831621

Sorrentino, D. M. (2007). The SEEK mentoring program: An application of the goal-setting theory. *Journal of College Student Retention, 8*(2), 241-250. doi: 10.2190/7D9T-D30Y-N9T0-8DWL

Straw, R. B., & Herrell, J. M. (2002). A framework for understanding and improving multisite evaluations. In J. M. Herrell & R. B. Straw (Eds.), *Conducting Multiple Site Evaluations in Real-World Settings. New Directions for Evaluation, 94,* 5-15.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics*, 6th ed. Upper Saddle River, NJ: Pearson.

Tello, F. P. H., Moscoso, S. C., Garcia, I. B., & Chaves, S. S. (2006). Training satisfaction rating scale: Development of a measurement model using polychoric correlations. *European Journal of Psychological Assessment, 22*(4), 268-279. doi: 10.1027/1015-5759.22.4.268

Terenzini, P. T., & Reason, R. D. (2005, November). *Parsing the first-year of college: A conceptual framework for studying college impacts.* Paper presented at the Annual Conference of the Associate for the Study of Higher Education, Philadelphia, PA.

Thomas, L. (2002). Student retention in higher education: The role of institutional habitus. *Journal of Educational Policy, 17*(4), 423-442. doi: 10.1080/02680930210140257

Tinto, V., (1975). Drop-out from higher education: A theoretical synthesis of recent research. *Review of Education Research, 45,* 89-125. Retrieved from http://www.jstor.org/stable/1170024

Tinto, V., (1987). *Leaving college. Rethinking the causes and cures of student attrition.* Chicago: University of Chicago Press.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition.* Chicago: University of Chicago Press.

Valadez, J. (1993). Cultural capital and its impact on the aspirations of nontraditional community college students. *Community College Review, 21*(3), 30. doi: 10.1177/009155219302100304

Van Houtte, M., & Van Maele, D. (2012). Students' sense of belonging in technical/vocational schools versus academic schools: The mediating role of faculty trust in students. *Teachers College Record, 114*(7), 1-36.

Windham, M. H., Rehfuss, M. C., Williams, C. R., Pugh, J. V., & Tincher-Ladner, L. (2014). Retention of first-year community college students. *Community College Journal of Research & Practice, 38*(5), 466-477. doi: 10.1080/10668926.2012.743867

U.S. Department of Education, National Center for Education Statistics, High School Transcript Study, 2009.

U.S. Department of Education, National Center for Education Statistics, 2007–08 National Postsecondary Student Aid Study.

Appendices

Appendix A

Letter of Support from TCAT Central Office

TENNESSEE BOARD OF REGENTS

Office of Colleges of Applied Technology

1415 Murfreesboro Road, Suite 314 | Nashville, TN 37217-2833 | Phone 615.366.4470 | Fax 615.366.3999 | www.tbr.edu

August 25, 2014

Ms. Sonya Sullivan
Institutional Review Board
UT Knoxville Office of Research
1534 White Ave.
Knoxville, TN 37996-1529

Dear Ms. Sullivan:

I am writing to confirm my support of Brittany Daulton with her dissertation project, Student Persistence in Career and Technical Education: A Multi-Sample, Mixed-Method Evaluation of Student Services. This study will be conducted to ensure the Tennessee Colleges of Applied Technology are offering student support services that are meeting the needs of students, as well as how these services help students persist. I have consented to communicating with students and staff at our 27 campuses via email message in which I will include a link to Ms. Daulton's survey. I will also work with Ms. Daulton to schedule site visits at six TCAT locations: [redacted] We will also recruit and schedule her participants for focus groups and interviews (students, staff, and central office administrators). She will provide all participants with a full explanation of her study in the informed consent for each data collection activity.

This study will contribute to our knowledge of career and technical education students and their experiences at the TCATs where student support services are concerned. The information will be helpful as we consider improved ways of supporting students in career and technical education. With increased understanding, the student experience can be improved with a better understanding of student persistence and student support services in career and technical education.

If you have any questions, do not hesitate to contact me.

Sincerely,

James D. King, Vice Chancellor
Tennessee Colleges of Applied Technology

C: Brittany Daulton

Appendix B

INFORMED CONSENT STATEMENT – Student Survey
Tennessee Colleges of Applied Technology – Student Services Study

INTRODUCTION

You are invited to participate in this research project looking at the student services offered at the Tennessee Colleges of Applied Technology (TCAT). We are investigating the student support services available to you at your TCAT institutions, and how those services have helped you.

You must be 18 years of age to participate in the study.

All students at the TCAT will be entered into a raffle to win one of twenty $20.00 Amazon gift cards, regardless of your participation. The winners of the raffle will be notified over email by TCAT Administration at the conclusion of the study.

INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY

Your participation in this study asks you to complete this survey. At the conclusion of this survey your involvement is completed.

RISKS

There will be minimal risks to the participants of the current study. Please note that all research carries risks. Confidentiality will be protected to the extent that is allowed by law. We will make every effort to protect the confidentiality of participants data obtained during this study.

BENEFITS

A benefit to you may be increased awareness of student support services available to you at your TCAT institution.

This research may assist us in providing student support services that best support TCAT students.

CONFIDENTIALITY

The information that you will be entering in the survey will be kept confidential. Only the researchers will have access to your information and the data will be stored in a secure location. No references will be made in any reports that could link you as a participant to the study or the data.

COMPENSATION

You will not receive any compensation for your participation in this research study.

CONTACT INFORMATION

If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study,) you may contact the lead researcher at the University of Tennessee, Brittany Daulton (bdaulton@utk.edu) or the Co-PI, Dr. Jennifer Ann Morrow (jamorrow@utk.edu). You may also contact the TCAT central office at (615) 366-4470.

If you have questions about your rights as a participant, contact the Office of Research at the University of Tennessee, at (865) 974-3466.

PARTICIPATION

Your participation in this study is completely voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be returned to you or destroyed.

CONSENT

I have read and understood the above information. Please print or save a copy of this information for your records. If you agree to participate in this evaluation, please click the "Next" button to begin the survey and indicate your consent. If you do not wish to participate in this evaluation then simply close the web browser window.

Sense of Belonging

Please respond to the following items with the answer choice that best describes how true you find each statement to be of your own experience at your TCAT institution.

1 **Strongly Disagree**	2 **Disagree**	3 **Neither Agree nor Disagree**	4 **Agree**	5 **Strongly Agree**

Perceived Peer Support (8 items)

1. I have met with classmates outside of class to complete assignments
2. If I miss class, I know students who I could get notes from or ask about what I missed
3. I discuss events which happened outside of class with my classmates
4. I have discussed personal matters with students who I met in class
5. I could contact another student from class if I had a question
6. Other students are helpful in reminding me when assignments are due or when tests are approaching
7. I have developed personal relationships with other students in class
8. I invite people I know from class to do things socially

Perceived Classroom Comfort (4 items)

9. I feel comfortable contributing to class discussions
10. I feel comfortable asking a question in class
11. I feel comfortable volunteering ideas or opinions in class
12. Speaking in class is easy because I feel comfortable

Perceived Isolation (4 items)

13. It is difficult to meet other students in class
14. No one in my classes knows anything personal about me
15. I rarely talk to other students in my class

16. I know very few people in my class

Perceived Faculty Support (10 items)

17. I feel comfortable talking about a problem with faculty
18. I feel comfortable asking a teacher for help if I do not understand course-related material
19. I feel that a faculty member would be sensitive to my difficulties if I shared them
20. I feel comfortable socializing with a faculty member outside of class
21. I feel that a faculty member would be sympathetic if I was upset
22. I feel that a faculty member would take the time to talk to me if I needed help
23. If I had a reason, I would feel comfortable seeking help from a faculty member outside of class time (office hours etc.)
24. I feel comfortable seeking help from a teacher before or after class
25. I feel that a faculty member really tried to understand my problem when I talked about it
26. I feel comfortable asking a teacher for help with a personal problem

Please answer the question below in the space provided.

Do you feel connected to your TCAT institution? Please explain.

Institutional Commitment

Please respond to the following items with the answer that best describes your level of agreement with each statement about your TCAT institution.

1	2	3	4	5	6	7
Strongly Disagree	**Moderately Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Moderately Agree**	**Strongly Agree**

Affective Commitment:

1. I would be very happy to spend the rest of my educational career at this institution.
2. I enjoy discussing my institution with people outside of it.
3. I really feel as if this institution's problems are my own.
4. I think I could easily become as attached to another institution as I am to this one. (R)
5. I do not feel like 'part of the family' at my institution. (R)
6. I do not feel 'emotionally attached' to this institution. (R)
7. This institution has a great deal of personal meaning for me.
8. I do not feel a strong sense of belonging to my institution. (R).

Continuance Commitment:

1. I am not afraid of what might happen if I quit attending this institution without being accepted at another institution. (R)
2. It would be very hard for me to leave my institution right now, even if I wanted to.
3. Too much in my life would be disrupted if I decided I wanted to leave my institution now.
4. It wouldn't be too costly for me to leave my institution now. (R)
5. Right now, staying with my institution is a matter of necessity as much as desire.
6. I feel that I have too few options to consider leaving this institution.
7. One of the few serious consequences of leaving this institution would be the scarcity of available alternatives.
8. One of the major reasons I continue to attend this institution is that leaving would require considerable personal sacrifice.

Student Satisfaction

Please respond to the following items with the answer choice that best describes your level of agreement with each statement about your TCAT institution.

1 **Strongly Disagree**	2 **Disagree**	3 **Neither Agree nor Disagree**	4 **Agree**	5 **Strongly Agree**

1. I am satisfied with my experience at my TCAT institution.
2. If given the opportunity, I would enroll at a TCAT again.
3. I would recommend enrolling in a TCAT to a friend.
4. I enjoy my time at the TCAT.
5. My classes further my knowledge of my vocation.
6. The class activities further my knowledge of my vocation.
7. I have learned new skills.
8. I enjoy learning about my vocation.
9. I looked forward to attending school.
10. My program was a useful experience for my vocation.
11. I am satisfied with the student support services offered to me at the TCAT.
12. I have used a student support service at the TCAT.
13. The student support services available to me have helped me be successful.
14. I have received services from a member of the financial aid staff.
15. I have received support from a member of the counseling office.
16. I have received support from a faculty member.

Please respond to the following questions in the space provided.

What would you say is the biggest strength of student support services offered at your TCAT institution?

Are there any support services you need in addition to what is currently offered at your TCAT institution? If yes, please explain.

Career Integration

Please answer the following items with the response that best describes your level of agreement with each statement about your TCAT institution.

1 **Strongly Disagree**	2 **Disagree**	3 **Neither Agree nor Disagree**	4 **Agree**	5 **Strongly Agree**

1. The TCAT has given me the necessary exposure to my intended work environment.
2. Being a student at the TCAT has given me the opportunity to interact with professionals in the field.
3. The TCAT has given me many resources to learn more about my field.
4. I am aware of the local industries or organizations where my trade would be needed.
5. I know where to search for job opportunities.
6. I have learned about my future career throughout my program.
7. My instructor is knowledgeable about the field.
8. My instructor has experience working in the field.
9. My instructor is well connected to other professionals in the field.
10. Throughout my time at the TCAT I've been able to gain career related work experience.
11. The TCAT has provided me with assistance for my career.
12. My experiences at the TCAT have given me the opportunity to learn more about the norms of the field.
13. My experiences at the TCAT have given me the opportunity to learn more about the values of professionals in the field.
14. The TCAT has provided me with skills relevant to my career.
15. The TCAT has provided me with services to help me obtain a position in my field.
16. I feel ready to enter the field upon completion of my program.
17. I am confident in my job skills.
18. I feel well trained to enter the workforce.
19. The TCAT classroom closely models a realistic work setting

Please answer the following questions with the answer choice that best represents your level of agreement.

20. I intend to stay at this institution until I've completed my program.
21. I intend to find a full-time job in my field after I have completed my program.
22. I intend to continue on to a 2-year degree program.
23. I intend to continue on to a 4-year degree program.

Please answer the following question in the space provided.

Why did you choose to further your education at a technical college?

Demographics

Please answer the following questions with the answer choice that best describes you.

What TCAT institution do you currently attend?

(Drop-down box)

Athens
Chattanooga
Covington
Crossville
Crump
Dickson
Elizabethton
Harriman
Hartsville
Hohenwald
Jacksboro
Jackson
Knoxville
Livingston
McKenzie
McMinnville
Memphis
Morristown
Murfreesboro
Nashville
Newbern
Oneida/Huntsville
Paris
Pulaski
Ripley
Shelbyville
Whiteville

What is your specific program of study?

In which trimester are you currently enrolled?

1st	2nd	3rd	4th or more

What is your age? (in years)

What is the highest degree you've attained?

High School Diploma
GED
Technical Certificate/Diploma
2 Year Associates Degree
4 Year Bachelors Degree
Graduate Degree

Do you have a job outside of school?

Yes	No

If yes, how many hours per week do you work?

What is your sex?

Male	Female

How do you pay for your education? (Please choose all that apply.)

Pell Grant
Tennessee Student Assistance Aware (TSAA)
Wilder Naifeh (Lottery)
WIA
Skills USA Scholarship
TN Scholars Scholarship
Other Scholarship
Fee Waiver or Discount
Employer paid
Self paid
Veterans Programs

Please answer the following questions with the answer choice that best describes you.

Are you Hispanic?

Yes	No

Which best describes your race/ethnicity? Please check all that apply. If other, please enter your answer in the space provided.

American Indian or Alaska Native
Asian Indian
Black/African American
Caucasian/White
Chinese
Filipino
Guamanian or Chamorro
Japanese
Korean
Native Hawaiian
Samoan
Vietnamese
Other Asian _____
Other Pacific Islander _____
Other_____
Prefer not to answer

Appendix C

TCAT Student Focus Group Protocol

Instructions and Introduction

My name is Brittany Daulton and I'm here today to learn more about the student support services that are offered to you at your TCAT institution. I'm working with the Central Office staff to learn more about these services at the TCAT institutions and how they help students. Today, I'll be talking with you for 45-60 minutes about TCAT student support services and your perception of them.

We appreciate your honest feedback. We want to hear from each and every one of you; your opinions are important to us. Your feedback will be used to guide the Central Office Administration in developing and providing the best services possible for TCAT students. We thank you in advance for your feedback.

Even though you have come here today, you still have the option of declining participation. This is a purely voluntary activity. If you do not wish to participate, please do not. You can opt out at any point during the group even if you start the process. Understand that the information you provide us today is kept confidential, I will not be able to connect your responses with your true identity.

I will be recording this focus group in order to accurately summarize the information you provide. The audio recording will be destroyed after the recording has been transcribed and sanitized for any identifying information. I will not identify any individual in the transcriptions. Any questions?

Is this okay that I record this focus group, please say yes or nod your head? [if only a couple of participants don't agree to having the interview recorded they don't have to participate, if many participants don't agree just take detailed notes].

----------Start Recording----------

Before we get started does anyone have any questions? Okay, let's get started.

Questions

Can you tell me a little bit about student support services at your institution?

How much access do you have to student support services?

Are there any barriers to your access? Can you explain this a little bit?

How have student support services helped you stay at your institution?

What do you think is the role of your instructors in supporting students at your institution?

How have your instructors helped you?

What part of student support services do you think work the best at your institution?

What part of student support services do you think haven't worked well at your institution?

Could you identify any part of student support services at your institution that you think could be improved?

How would you describe your satisfaction with student support services?

Can you give me an example of this?

What has helped you determine this?

What student support services do you still need in order to be successful at your institution?

What student support services do you still need in order to stay at your institution?

Is there anything else you would like me to know about student support services at your institution?

Conclusion

That is the end of our time together. Thank you for taking the time out of your day to participate in this focus group. If you don't have anything else to share, that concludes the focus group. I appreciate your time!

Appendix D

INFORMED CONSENT STATEMENT – Staff Survey
Tennessee Colleges of Applied Technology – Student Services Study

INTRODUCTION

You are invited to participate in this research project looking at the student services offered at the Tennessee Colleges of Applied Technology (TCAT). We are investigating the student support services available to students at your TCAT institutions, and how those services have helped students. All staff will be entered into a raffle to win one of five $20.00 Amazon gift cards, regardless of their participation. The winners of the raffle will be notified over email by TCAT Administration at the conclusion of the study.

INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY

Your participation in this study asks you to complete this survey. At the conclusion of this survey your involvement is completed.

RISKS

There will be minimal risks to the participants of the current study. Please note that all research carries risks. Confidentiality will be protected to the extent that is allowed by law. We will make every effort to protect the confidentiality of participants data obtained during this study.

BENEFITS

This research may assist us in providing student support services that best support TCAT students.

CONFIDENTIALITY

The information that you will be entering in the survey will be kept confidential. Only the researchers will have access to your information and the data will be stored in a secure location. No references will be made in any reports that could link you as a participant to the study or the data.

COMPENSATION

You will not receive any compensation for your participation in this research study.

CONTACT INFORMATION

If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study,) you may contact the lead researcher at the University of Tennessee, Brittany Daulton (bdaulton@utk.edu) or the Co-PI, Dr. Jennifer Ann Morrow (jamorrow@utk.edu). You may also contact the TCAT central office at (615) 366-4470.

If you have questions about your rights as a participant, contact the Office of Research at the University of Tennessee, at (865) 974-3466.

PARTICIPATION

Your participation in this study is completely voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be returned to you or destroyed.

CONSENT

I have read and understood the above information. Please print or save a copy of this information for your records. If you agree to participate in this study, please click the "Next" button to begin the survey and indicate your consent. If you do not wish to participate in this evaluation then simply close the web browser window.

Please respond to the following questions with the answer choice that best describes your level of agreement with each statement on the following scale.

1 **Strongly Disagree**	2 **Disagree**	3 **Neither Agree nor Disagree**	4 **Agree**	5 **Strongly Agree**

1. My institution offers many services that support students.
2. Students are aware of the resources available to them at my institution.
3. Students are comfortable coming to staff for help.
4. Students are satisfied with the support services offered at my institution.
5. Students need more student support services to be successful.
6. Students know where to go to find out how to receive support.
7. Students stay enrolled at TCAT because of the student support services available to them.
8. Student support services are an important part of my institution.
9. Student support services play a role in student success at my institution.

Please respond to the following questions in the space provided.

What would you say is the most beneficial aspect of student support services at your TCAT institution?

What aspects of student support services at your TCAT institution that need to be improved?

Are there additional services not offered at your institution that you think are necessary? If yes, please explain.

Which student support service would you say is the most commonly used at your TCAT institution?

Demographics

Please answer the following questions with the answers that best describe you.

At which TCAT campus are you currently employed?

(Drop-down box)

Athens
Chattanooga
Covington
Crossville
Crump
Dickson
Elizabethton
Harriman
Hartsville
Hohenwald
Jacksboro
Jackson
Knoxville
Livingston
McKenzie
McMinnville
Memphis
Morristown
Murfreesboro
Nashville
Newbern
Oneida/Huntsville
Paris
Pulaski
Ripley
Shelbyville
Whiteville

How long have you been employed at your TCAT institution?

1-5 years
6-10 years
11-15 years
16-20 years
More than 20 year

Appendix E

TCAT Staff Interview Protocol

Instructions and Introduction

My name is Brittany Daulton and I'm here today to learn more about the student support services that you offer at your TCAT institution. I'm working with the Central Office staff to learn more about these services at the TCAT institutions and how they help students. Today, I'll be talking with you for 30-45 minutes about TCAT student support services and your perception of them.

We appreciate your honest feedback. We want to hear from each and every one of you; your opinions are important to us. Your feedback will be used to guide the Central Office Administration in developing and providing the best services possible for TCAT students. We thank you in advance for your feedback.

Even though you have come here today, you still have the option of declining participation. This is a purely voluntary activity. If you do not wish to participate, please do not. You can opt out at any point during the group even if you start the process. Understand that the information you provide us today is kept confidential, I will not be able to connect your responses with your true identity.

I will be recording the interview in order to accurately summarize the information you provide. These audio recordings will be destroyed after the recording has been transcribed and sanitized for any identifying information. I will not identify any individual in the transcriptions. Any questions?

Is this okay that I record this interview, please say yes or nod your head? [if participant doesn't agree to having the interview recorded, take detailed notes].

----------Start Recording----------

Before we get started do you have any questions? Okay, let's get started.

Questions

How do you think the student services offered at your institution help students persist and be successful?

What is the purpose of student support services at your institution?

What is your perception of student support services at your institution?

What do you think is the role of instructors in providing support to students?

Are the student support services being offered at your institution meeting student needs?
-How?
-Why or why not?
-Can you give me an example of this?

How would describe the process you use to identify and help struggling students?

How do you identify the needs of students at your institution?

What services are students using most often?

-Why do you think that is occurring?

From your perspective, how do students view these services?
-Are they satisfied with the services provided?
-Do they benefit from the services provided?
-Do they know the services are available to them?

If you had a wish list and money wasn't an option and you could provide anything for the students at your institution, what would this be?

Is there anything else you would like me to know before we end today?

Conclusion

That is the end of our time together. Thank you for taking the time out of your day to participate in this interview. If you don't have anything else to share, that concludes the interview. I appreciate your time!

Appendix F

TCAT Administrator Interview Protocol

Instructions and Introduction

My name is Brittany Daulton and I'm here today to learn more about the student support services that you offer at the TCAT systems. I'm working with your staff here at the Central Office to learn more about these services at the TCAT system and how they help students. Today, I'll be talking with you for 30-45 minutes about TCAT student support services and your perception of them.

We appreciate your honest feedback. We want to hear from each and every one of you; your opinions are important to us. Your feedback will be used to guide the Central Office Administration in developing and providing the best services possible for TCAT students. We thank you in advance for your feedback.

Even though you have come here today, you still have the option of declining participation. This is a purely voluntary activity. If you do not wish to participate, please do not. You can opt out at any point during the group even if you start the process. Understand that the information you provide us today is kept confidential, I will not be able to connect your responses with your true identity.

I will be recording the interview in order to accurately summarize the information you provide. These audio recordings will be destroyed after the recording has been transcribed and sanitized for any identifying information. I will not identify any individual in the transcriptions. Any questions?

Is this okay that I record this interview, please say yes or nod your head? [if participant doesn't agree to having the interview recorded, take detailed notes].

----------*Start Recording*----------

Before we get started do you have any questions? Okay, let's get started.

Questions

From your perspective, what role do student support services play in student persistence at TCAT institutions?

How can student support services help students?

What can be done to make sure all students have access to these student support services?

What do you see as the needs of the students enrolled at TCAT institutions?

Why?

How can student needs be met?

Do you perceive students to be satisfied with student support services offered at TCAT institutions?

How do you see staff at your institutions perceiving the student support services?

How do you think students should be supported at TCAT institutions?

Is there anything else you would like me to know before we end today?

Conclusion

That is the end of our time together. Thank you for taking the time out of your day to participate in this interview. If you don't have anything else to share, that concludes the interview. I appreciate your time!

Vita

Brittany Daulton earned a Bachelor's degree in Psychology from Transylvania University (Lexington, KY) in 2009. She then earned a Master's of Science in Industrial and Organizational Psychology from Northern Kentucky University (Highland Heights, KY) in 2013, where she gained experience in Higher Education Assessment. In 2011, Brittany began her doctoral studies in Evaluation, Statistics, and Measurement at the University of Tennessee. During her time at the University of Tennessee, Brittany worked on various evaluation projects, both internal and external to the university, authored and coauthored multiple evaluation reports, gained skills in writing and presenting research, measurement, and development assessments. She had the opportunity to complete an internship with the Tennessee Board of Regents, working in the summer of 2013 with the Tennessee Colleges of Applied Technology central office. Brittany served as a member of the assessment team at the Office of Institutional Research and Assessment, where she worked on large scale assessment projects across the university. Brittany Daulton graduated from the University of Tennessee in May of 2015 with a Ph.D. in Educational Psychology and Research, with a concentration in Evaluation, Statistics, and Measurement.