

ABSTRACT

Laura Bilbro-Berry, AN ANALYSIS OF PERSISTENCE FACTORS OF 2+2 UNIVERSITY CENTER TEACHER EDUCATION STUDENTS (Under the direction of Dr. Crystal Chambers). Department of Educational Leadership, May 2013.

The issue of teacher shortages across the state and nation, especially in rural areas, is a complex one. The disparity between the number of teachers produced and what is needed to fill classrooms across the nation in states where student populations are growing is exacerbated by issues of attrition of current educators. Mandates for production of new teachers have led institutes of higher education to engage in partnerships with community colleges to create another avenue for teacher production. The creation of the 2+2 university center teacher education model involves partnerships with community colleges and four-year institutions to provide access to education degrees in rural areas. Research on the 2+2 university center teacher education model has focused upon creation of the model, comparability of enrolled students and traditional on campus students, and production of graduates as an outcome measure of success. The present study examined persistence factors of a population of 2+2 university center students by exploring demographic characteristics, attitudes about academic and social integration, and performance outcome measures. An understanding of the factors that best motivate students to persist and be successful within the 2+2 university center teacher education model was the goal of the research such that information gleaned can be a first step in the development of a retention plan for the 2+2 university center model within teacher education and other similar programs within higher education settings.

AN ANALYSIS OF PERSISTENCE FACTORS OF 2+2 UNIVERSITY CENTER
TEACHER EDUCATION STUDENTS

A Dissertation

Presented to

The Faculty of the Department of Educational Leadership
East Carolina University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

by

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May, 2013

AN ANALYSIS OF PERSISTENCE FACTORS OF 2+2 UNIVERSITY CENTER
TEACHER EDUCATION STUDENTS

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DEDICATION

For Grandmother, the best of the past

For Grace, the beautiful promise of the future

ACKNOWLEDGEMENTS

This research could not have been conducted without the assistance of several individuals who provided me support during the process. I would like to extend my deepest gratitude to my dissertation chair, Dr. Crystal Chambers, who guided me through the process and provided continual models of excellence. In addition, I would like to thank Dr. Jason Brinkley for his patient assistance as I conducted the numerous analyses included within this study. To Dr. Hal Holloman and Dr. Marjorie Ringler, I am appreciative of your words of encouragement and thoughtful feedback. I am appreciative also of the encouragement provided by Dr. Vivian Mott, my department chair. To Gwen Joyner, I appreciate your formatting expertise.

I would like to express my deep appreciation to my dear friends and mentors, Dr. Vivian Martin Covington and Dr. Diana Lys, for their unwavering support and encouragement. I am appreciative of the hard work and dedication of the WPE coordinators to the WPE students. I am grateful for the efforts of Christa Monroe, Emily-Lynn Adkins, and Darlene Perry for cheering me on and making sure coffee was always ready.

I would also like to acknowledge the efforts of my family in their support of me throughout this journey. I appreciate the efforts of my mother who served as the technical editor for my early drafts. To my husband, Todd Berry, I want to thank him for serving the roles of dad, mom, homework facilitator, and domestic engineer extraordinaire while I dedicated time to this research. I could not have accomplished this feat without his unconditional support. Lastly, I would like to extend my thanks to my daughter, Grace, for her patience and independence over the past year. I am very grateful for all these individuals who helped me accomplish this goal.

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CHAPTER 1: INTRODUCTION

Teacher preparation programs are not supplying enough teachers to fill classrooms across the nation, especially in rural areas and high need content areas such as science, math, and special education. Hussar and Bailey (2011) predict a 14% increase in the number of new teachers needed for public schools by the year 2020. In addition to challenges in recruiting and retaining students in teacher preparation programs, low teacher retention and increased retirements as the Baby Boomer generation comes of age, have exacerbated the supply of teachers for public school classrooms (Guarino, Santibañez, & Daley, 2006; Ingersoll, 2006). To address shortfalls, university teacher preparation programs are compelled towards recruiting and graduating more teachers. This pressure by teacher preparation programs has resulted in the creation of alternative pathways and entry options into teacher education. History and outcomes of the alternative pathways have been mixed and have created questions of the rigor and quality of such programs (Aud, Hussar, & Kena 2011; Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005; Laczko-Kerr & Berliner, 2002; Rivkin, Hanushek, & Kain, 2005; Sindela & Rosenberg, 2000).

The 2+2 university center model (2 years community college training plus 2 years university training) provides an alternative entry into teacher education by taking the traditional program to communities where students are geographically located. Community colleges and four-year institutions have partnered so that students may complete general education coursework at the community college, and then complete the teacher education portion of the degree through blended or online coursework. The part-time and distance education delivery aspect of the model offers access to nontraditional students who desire a career in teaching.

There are 2+2 university center teacher education partnerships in states such as Arizona, Florida, Michigan and Texas, purposed to increase access to teacher education degrees and address burgeoning teacher shortages (Floyd & Arnauld, 2007). In North Carolina, the Wells Fargo Partnership East (formerly Wachovia) was created in the 2001-2002 academic year by East Carolina University's College of Education. The partnership was endowed with a gift of \$1.25 million dollars, by the Wells Fargo Foundation, to support scholarships for students enrolled in the degree completion program. Wells Fargo Partnership East (WPE) involves a partnership with 20 local community colleges, 1 private 2-year college, and an Air Force base. In addition, collaboration with 36 public school systems is imbedded into the model such that recruitment of teacher assistants and school system employees occurs.

WPE has graduated 443 students since the program's inception. Of the graduates, 91% ($N=405$) are licensed to teach in North Carolina. Of those that are licensed, 77% ($N=343$) are currently employed in North Carolina. Of those that are employed, 95% ($N=326$) are teaching in rural, eastern North Carolina. While the program has been successful in producing educators for rural counties, it is unclear as to the factors that support students toward successful performance while in the program and toward graduation and employment within the field.

Statement of Problem

According to a recent report from the National Center for Education Statistics, the number of teachers needed within the United States for elementary and secondary school classrooms has risen from 3,051,000 teachers needed in 1996 to a projected need of 3,939,000 by the year 2020 (Hussar & Bailey, 2011). Data gathered within the report indicate that the need for teachers will grow exponentially to accommodate population growth, which is projected to increase by 6.9% nationwide (Hussar & Bailey, 2011). Within the 2012 report on *The Condition*

of Education by the National Center for Education Statistics (NCES), the increase in elementary and secondary enrollment is projected to increase to 53.1 million students (Aud et al., 2012). By the year 2020, the number of students in public elementary and secondary schools within North Carolina is projected to increase by 15.1% which places the state as the seventh largest projected pupil growth across the fifty states (Hussar & Bailey, 2011).

According to a University of North Carolina (UNC) General Administration report, North Carolina is projected to need 12,165 new teachers by the year 2014-2015 (Noel-Levitz Teacher Recruitment Plan- University of North Carolina System, 2007). Institutions with teacher education programs in the state have fallen short in producing adequate numbers of teachers to meet the demand for new educators. As a result, the public institutions have been mandated to meet certain production targets, which has led to the creation of unique pathways to teacher education in order to increase production, especially in high need content areas and within rural counties. The creation and expansion of WPE is a response to these production mandates.

Research exists indicating that WPE graduates are comparable to on-campus students at the institution in quality and direct impact within the classrooms in which they teach (Henry et al., 2010; Locklear, 2007). However, due to the current economic climate, the recruitment of new teachers is more difficult than when the partnership began. As a means to fill the gap in the available literature about persistence and retention in 2+2 university center programs, this study sought to investigate those factors that students perceive as mitigating successful completion and employment within the field.

Purpose of the Study

The study built upon Locklear's (2007) research, which determined the comparability of university-center prepared teacher education candidates to traditionally prepared candidates. The

current investigation sought to go beyond the comparison of university-center teacher education graduates to traditional students to determine whether there were any significant relationships between student demographics and attitudes about the 2+2 model and performance outcomes to include performance within the model and subsequent graduation and employment in the field. The present study sought to examine data about the participants within the program, their perceptions of the program with outcome measures so that a comprehensive understanding of the critical components of the 2+2 university center teacher education model could be obtained. Triangulation of student demographic, student attitudinal, and performance outcome data was implemented to capture the components of the model that positively influence participants to be retained until successful completion and employment in the field. Future maximization of these components could foster retention efforts within the program such that students are supported and persist toward program completion. In addition, lessons learned from this model that focuses upon teacher education students may be useful to 2+2 university center models in other disciplines.

Previous studies of student persistence have focused upon traditionally-aged students in four year or two year settings and cannot fully capture the uniqueness of the 2+2 university center teacher education student (King, 2011; LaNasa, Cabrera, & Trangsrud, 2009; Roberts & Styron, 2010; Rovai, 2003; Spellman, 2007; Tinto, 1987; Tinto, 2005). However, in using Tinto's (1975, 1994, 1997, 2012) theory of persistence, it seems to be the case that Tinto's base premise that academic and social integration are critical factors for retaining college students and elucidate factors contributing to student persistence/ institutional retention within the 2+2 model. In particular, Tinto's work with community colleges emphasizes the importance of learning communities to foster integration provided a relevant foundation for the present study (Tinto,

1997). I coupled Wenger's (1998) *Communities of Practice* with Tinto's theory to garner a deeper understanding of the types of practices within the 2+2 program that influence student persistence/ institutional retention as well as obtainment of employment in the field. According to Wenger, academic success is driven by connections within and outside the classroom. Given that the 2+2 university center model investigated is cohort-driven, an understanding of the collaborative and collegial nature of the students within the cohorts is important in order to encourage such activities within the model to support future students. Understanding the factors for persistence toward degree completion for a unique population of higher education students was the primary frame for the investigation. Findings from the study should be a first step in developing a set of retention activities for future cohorts while also perhaps providing insight to program planners in other higher education majors beyond teacher education.

To address the uniqueness of this particular population, an instrument was developed. The development, administration, and validation of the WPE Status Survey were incorporated into the current study. There was a need to know whether the factors that students cite as influential in their continued participation in the program were in any way related to student outcomes to include successful graduation from the program and employment within the field. In addition, a comparison of student characteristics to their attitudes about the program yielded information on those components of the 2+2 program that were influential for various subgroups of students. Tremendous amounts of time, energy and funding have been dedicated to the partnership by multiple stakeholders. Ascertaining the factors that promote successful retention within the 2+2 program was important to ensure further success in addressing teacher shortages in rural areas within North Carolina, especially considering the impact of future retirements of Baby Boomer teachers within this geographic area.

Central Research Questions

Understanding factors that influence persistence within the 2+2 university center student sample was the primary focus of this study. Taking Tinto's (1975, 1994, 1997, 2012) theory of persistence along with other research about social engagement and connectedness in a distance education environment served as a basis for analyzing the 2+2 university center model. The researcher investigated the following central research questions to determine if any relationships exist between the students who participate in the program, their attitudes about the program and student outcome measures to include degree completion and subsequent employment as measures of persistence. The research focused on student attitudes about elements of academic and social integration within the program as well as investigated commonalities among students that completed their degree to probe those components within the 2+2 university center model that best support students toward positive outcomes.

1. Are there any relationships between student demographic characteristics and student performance outcomes?
2. Are there any relationships between student attitudes about academic integration within the 2+2 university center teacher education model and their performance outcomes?
3. Are there any relationships between student attitudes about social integration within the 2+2 university center teacher education model and their performance outcomes?
4. Are there any relationships between the characteristics of the 2+2 university center teacher education students and their attitudes about academic integration within the 2+2 university center teacher education model?

5. Are there any relationships between the characteristics of the 2+2 university center teacher education students and their attitudes about social integration within the 2+2 university center teacher education model?

Significance of the Study

Within the methodology of this study, the development and validation of the WPE Status Survey coupled with analysis of student outcome measures was accomplished, denoting a response by higher education to issues of persistence within teacher preparation programs. Graduates of the WPE model have been found to be comparable to traditional graduates at the same institution, but more information was needed on what factors may be critical to assist students toward success within the program and toward completion. Providing a synthesis of demographic, attitudinal, and outcome measures should serve to contribute to the research literature about the 2+2 university model and this pathway for obtainment of teacher education degrees. Investigating the distinctive components of the 2+2 university center model to ascertain what factors enhance retention of students is critical for informing policy about the development and utilization of such models to enhance production of teachers.

This investigation examined components of retention found in a 2+2 university center model that has been in existence for 10 years such that information about why students persist within this type of program was ascertained. Other 2+2 programs in teacher education or other fields such as nursing or business may benefit from information about significant factors that lead to successful graduation and employment of participants in 2+2 distance education endeavors. Should an institution desire to create its own 2+2 model to provide greater access to degrees, an understanding of those components that relate to student retention within the model would be beneficial during the design stage rather than later.

Operational Definitions

The following terms are listed to enhance the reader's understanding of this investigation. The use of the terms may not be applicable to some institutions or programs.

2+2 program – student completion of the first half of the degree accomplished by taking general education coursework at a community college followed by completion of their program through a university at the university hub site or through online coursework offered by the university. The community college portion of the 2+2 degree encompasses 18-22 courses and is completed at the pace deemed appropriate by the student. The remainder of the 2+2 degree within this study involves students taking 2 to 3 courses per semester including summer which is considered part-time enrollment. The second half of the 2+2 program takes students 2 ½ to 3 ½ years to complete depending on the degree program. For a student who matriculates directly to a four year institution, the degree would take normally take 4 years to complete the same degree with full-time enrollment.

Distance education – coursework offered through an online, internet-based course platform or through coursework offered off campus at the university center site.

edTPA - education Teacher Performance Assessment is the summative portfolio completed by students in their final semester of their degree program. The edTPA was developed by Stanford University and consists of 12 measures of professional and pedagogical knowledge that students demonstrate through written prompts and application of knowledge within a classroom of students. The edTPA requires students to plan, teach, and evaluate a learning segment of three lessons that are videotaped. Scores on the individual measures and an overall score range from 1 to 5 with 5 indicating the highest level of competence. An overall score of at least 3 is required as an exit measure for program completion.

Entrance Grade Point Average – grade point average (GPA) of coursework taken at the community college that is utilized to gain admission to the second half of the 2+2 teacher education program.

Graduation Grade Point Average – the final GPA of the student at the completion of their 2+2 teacher education program.

Hub Site– the office of the university center located at one of five community college campuses.

Methods Courses – coursework that requires students to demonstrate understanding of content and pedagogy through application in a classroom setting.

Performance Outcome Measures- indicators of student proficiency to include grades in coursework associated with the teacher education degree; grades within the reading concentration which constitute additional content knowledge; final grade point average; Praxis II scores; and scores on the Teacher Performance Assessment which serves as the culminating assessment for teacher education candidates.

Praxis I – a test that measures competency in the areas of reading, writing, and mathematics and is utilized for entrance into the 2+2 program and formal admission into upper division coursework.

Praxis II – a test that measures professional knowledge and competency within a specific content area and is required for licensure for certain majors. Students who meet the passing standard along with other program requirements are considered to possess an understanding of the content and pedagogy they will teach in the future.

Professional Core Courses – courses that all education majors are required to complete that include content about educational foundations, theory and pedagogy.

University center – the off-campus location of the university employee who recruits and advises students.

Upper Division – the formal entrance into the teacher education program that includes a minimum GPA of 2.5, successful completion of the Praxis I test or its equivalent, and successful completion of the entry level survey course. Coursework within upper division involves greater interaction in a public school classroom and involves the application of methods into practice.

Upper Division Courses - courses taken after a student meets the entrance standards to be formally admitted into the teacher education program.

WPE Coordinator – the university employee that is housed at one of the five university center sites located at a community college.

WPE Status Survey – an instrument designed to solicit feedback from students about advising, instruction, and support they receive during the program.

Limitations of the Study

This study utilized a sample of students within the Wells Fargo Partnership East program. Students within the sample were members of three degree programs and did not represent all the degrees offered in teacher education at the institution. Performance outcome measures, student attitudes and demographics in other degree programs offered at the institution may not be similar to those incorporated within the present sample. The data collected within the study were associated with the WPE Status Survey and were specific to East Carolina University and this 2+2 program. As such, the results cannot be applied to all 2+2 university center programs within teacher education or in other fields of study. The demographics of the sample population included within the study may not be comparable to demographics at other institutions that have

university center programs. For this reason, the results would not be representative of other models at other institutions.

Summary

The following paragraphs include a review of the current literature about teacher shortages. Retention and student engagement were addressed in the overarching theoretical framework utilizing both Tinto's student persistence theory (Tinto, 1975, 1987, 1994, 1997, 2012) and Wenger's *Communities of Practice* (Wenger, 1998). The methodology utilized to ascertain if relationships existed between the characteristics of students, their attitudes about the model, and outcome measures to include graduation and employment are included. Directly following the methodology section is an analysis of the results, along with discussion and implications for the field and future research.

CHAPTER 2: REVIEW OF LITERATURE

Introduction

The purpose of this chapter was to provide a review of the literature related to the present study. To frame the issue of teacher shortages, specific literature related to the issue from a national and state perspective was included such that the complexity of the issue to encompass the demand for teachers, the impact of population growth, and teacher production information was addressed. The problem of attrition and retention of teachers and its impact on the teacher shortage was presented. National and state responses to the shortage of educators were examined within the literature about production mandates with an emphasis on the specific statewide context for the present study.

Tinto's (1975, 1987, 1994, 1997, 2012) persistence theory served as the macro-level theoretical lens through which the present study was analyzed. Research regarding the importance of academic and social integration, learning communities, and institutional actions was incorporated. In addition, Wenger's (1998) *Communities of Practice* provided micro-level theoretical underpinnings by addressing the importance of learner connections and communities in addition to a review of the literature on social connections and engagement. Studies of traditional age students related to student connections were provided and juxtaposed against the few studies that focus on the nontraditional population the current study sought to investigate.

Research about retention within distance education programs was incorporated. An emphasis on studies that investigate factors that enable traditional and nontraditional students to degree completion in a distance education setting was integrated. The gap in the literature about specific factors for retention within the 2+2 university center teacher education model occurred when one looks at the current literature related to the topic for the present investigation. Studying

the dynamics of the model has implications for educational leaders who may wish to develop successful 2+2 university center models in the future that create a viable pipeline for degree programs in high need areas such as teaching.

Supply and Demand and the Teacher Shortage

The problem of teacher shortages includes a myriad of factors that affect exactly how many teachers serve students within classrooms. Population increases, production and retention of new teachers, retention of veteran teachers, teacher retirements, and increased state and federal mandated pressures on teachers to impact student achievement all impact the supply and demand of educators across the nation and within North Carolina. The solutions to the problem of teacher shortages are as complex as the problem itself.

Demand for More Teachers

National and state data clearly indicate that there are, indeed, teacher shortages across the nation in rural areas and in high need content areas, such as math, science, and special education (Hussar & Bailey, 2011; Noel-Levitz, 2007). Hussar and Bailey (2011) project the need for teachers to fill classrooms nationwide to reach to approximately 4 million by the year 2020. Increases in pupil population drives the demand for new teachers. A 15.1% increase in student population is projected by the year 2020 (Hussar & Bailey, 2011). Math, science, and special education are the most deficient in numbers of teachers needed to fill classrooms within the nation and within North Carolina (Ingersoll, 2006; Noel-Levitz, 2007; U.S. Department of Education, 2011). According to a University of North Carolina (UNC) General Administration report, North Carolina is projected to need 12,165 new teachers by the year 2014-2015 (Noel-Levitz Teacher Recruitment Plan- University of North Carolina System, 2007).

Student populations are increasing, necessitating the need for more teachers to fill classrooms across the nation. As a result, the economic theory of supply and demand is

warranted as it provides one lens through which to view this investigation. Teacher education graduates from schools and colleges of education are insufficient to fill the numbers of teachers needed in public school classrooms (Noel-Levitz, 2007). A demand to produce larger number of teachers is evident.

Supply of Teachers: Production and Recruitment

Colleges and universities that house teacher education programs are not meeting this demand for more teachers. In a recently published report by the American Association of Colleges for Teacher Education (AACTE), data about enrollments in teacher education programs across the United States indicate that “enrollment of all education majors (undergraduate plus graduate) decreased by about 22,000 students between 2003–2004 and 2006–2007” (Ludwig, Kirshstein, Sidana, Ardila-Rey, & Bae, 2010, p. 22). In addition, data within the report denote that not only did the enrollment numbers of education majors decrease nationwide, but also did the number of students that completed the program. In 2003-2004, 228,190 education students completed a program compared to 219,723 student completers in 2006-2007 (Ludwig et al., 2010). Population growth is driving up the demand for teachers at the same time the supply of teachers being produced is decreasing.

The decrease in the production of teachers nationwide, as previously mentioned, is also reflected in the data about North Carolina, the state in which this study was located. In 2009-2010 state level data revealed that teacher education programs within the University of North Carolina (UNC) system graduated approximately 3,100 teachers and approximately 1,500 alternative entry students who already possess a bachelor’s degree but are enrolled in coursework leading toward a teaching certificate, leaving the state roughly 5,000 teachers short of the 10,000 to 12,000 needed each year to fill classrooms (UNC-GA Teacher Productivity Report, 2010).

The growth of the state's population of school-age students in tandem with the shortfall in production by teacher education programs places North Carolina in a difficult position to ensure that all students in the state have a qualified teacher in their classrooms each year.

To compound the issue of production to accommodate population growth is the difficulty in recruiting individuals to work in rural areas. Enticing individuals to work in rural areas is not exclusive to education but also relevant for health care professions. Daniels, VanLeit, Skipper, Sanders, and Rhyne (2007) in their analysis of recruitment and retention of health professionals for rural practice indicate that the community size and familiarity with the community were important to those within their study who chose to work in rural areas. Returning to a hometown to work where familiarity with the community served as a motivator for health care professionals in the study (Daniels et al., 2007). Those individuals who were not raised in small communities or had experience in rural areas expressed that they were not as likely to seek employment in those areas (Daniels et al., 2007) Similarly, recruitment of nurses for rural areas was examined by Collins, Hilde, and Shriver (1993). Having experiences in a rural setting during field work was noted as beneficial in recruiting new nurses such that students gained greater understanding of the opportunities for learning and the support available within the rural setting (Collins et al., 1993). Support from the rural community for new hires was found to be an enticer for new nurses and primary care physicians to include assistance with finding housing and other social integration issues (Kyle, 2008; Manecke & Edwardsen, 1994).

In the field of education, enticement of individuals to teach in rural areas impacts the supply of teachers needed for classroom. Rural schools may have large populations of low income families and may lack additional personnel and resources that suburban or urban districts have (Arnold, Biscoe, Farmer, Roberston, & Shapley, 2007). Rural school districts are often at a

disadvantage in offering compensation packages to teachers that larger and more wealthy districts can provide as a recruitment tool (Jimerson, 2003). New teachers who are paid less than their veteran counterparts are more likely to seek employment in districts where additional compensation is available (Jimerson, 2003). Cost of living expenditures may be less in rural districts but access to goods and services in rural communities may offset advantages of reduced living expenses (Jimerson, 2003). Teachers in rural areas may have travel great distances from their residence to the rural site or to access shopping, healthcare providers and other resources that enhance quality of life (Jimmerson, 2003). Superintendents and principals in rural school system indicate that these factors impact the number of qualified applicants for positions within their districts (Jimmerson, 2003; Taylor, 2012).

Taylor (2012) in her phenomenological examination of a rural school district in Virginia found that factors within the rural setting impacted recruitment and retention of teachers within the district. She noted that attraction to the school system was driven by familiarity with the rural community with the area being the home county or geographically near where the study participants resided (Taylor, 2012). In addition, Taylor found that new teachers within the study who had not previously resided in the community indicated that geographic and social isolation were reasons for transfer out of the district. Boyd, Grossman, Lankford, Loeb, and Wycoff (2005) also indicated that geography matters with respect recruiting new teachers. In their study, these researchers found that 48% of new teachers sought employment within 15 miles of their homes and 72% took positions within 40 miles of their hometowns. Boyd et al. (2005) suggest a “*grow your own*” approach to increase the supply of teachers into areas that traditionally have more difficulty enticing teachers such as urban and rural regions. However, rural areas that are geographically isolated have less access to teacher education programs at four year institutions

(Locklear, 2007). The characteristics of the rural area that inhibit attraction to the communities for new teachers also impact the ability of these communities to grow their own teachers.

Supply of Teachers: Issues of Attrition and Retention

Coupled with shortages in production of teachers are the issues of attrition and retention of public school teachers, such that understanding the true picture of deficit is often difficult. Guarina, Santibañez, and Daley (2006), in their review of the research on teacher recruitment and retention, presented an analysis of the characteristics of those who enter and remain in the teaching profession. White females represent the majority of individuals who enter the profession, although a small rise in the participation of minorities in the field were found in their analysis (Guarina et al., 2006). In addition, the researchers noted in their findings that individuals with “higher opportunity costs, in the form of attractive alternatives to teaching” (p. 184) would be less likely to select teaching as a profession. Males and females who were not constrained by child rearing responsibilities were found to be less likely to select teaching as a career (Guarina et al., 2006).

Guarina et al. (2006), in their meta-analysis of research on retention factors, also examined the factors that motivated individuals to remain in the classroom as teachers. They found that “the decision to continue teaching shares the same motivating principle that led to entry into teaching—namely, the perception that among all available alternate activities, teaching remains the most attractive in terms of compensation, working conditions, and intrinsic rewards” (Guarina et al., 2006, p. 184). Apparently, the attention to the motivational factors for retention of new teachers and veteran teachers is similar. An understanding of these factors is critical when examining the issue of teacher shortages.

In further examining the issue of retention and its impact on meeting the demand for teachers, Smethem (2007) in her qualitative study of new secondary teachers examined the viewpoint of beginning teachers regarding their profession, motivational issues, and their strategies for mediating change within their work. Within the study, Smethem found that the current generation of new teachers had entered the profession during a time of increased accountability and uncertainty within the field. The expectation of teaching as a lifelong profession was not an expectation among the study's participants (Smethem, 2007). However, the study participants did share the primary motivation that to remain in the profession was related to the intrinsic reward of making a valuable contribution to society (Smethem, 2007). Smethem also found that induction activities to assist with the development of a professional identity were cited as crucial by the beginning teachers in the study. She suggested that attention to the development of beginning teachers is critical to retention of educators within the profession (Smethem, 2007). With insufficient numbers of teachers entering the teaching profession, efforts to retain newly minted teachers is a factor to consider when examining the state of teacher shortages.

Intertwined with the issue of attrition within in the profession of teaching is teacher burnout. Ingersoll and Smith (2003) in their review of the issue of attrition noted burnout as a top reason for teachers leaving the profession. Hurr (2008) examined predictors of teacher burnout and found classroom management and student engagement to be significant predictors of burnout among teachers within his study of approximately 5,000 Ohio teachers. Being able to effectively manage student behavior and motivate students were stressors indicated by the study participants (Hurr, 2008). Farber (2010) examined attrition as well and found that a myriad of small issues predicated teacher burnout leading to exodus from the field by those in the profession. Increased

accountability expectation, less than optimal working conditions, bureaucratic hindrances, and issues of compensation when combined create pressure on teachers which often leads to burnout and subsequent departure from the profession (Farber, 2010).

Ingersoll and Smith (2003) found this to be especially true for new teachers. Student discipline issues, poor administrative support and student motivation were cited as the top reasons for dissatisfaction among departing new teachers (Ingersoll & Smith, 2003). Similarly, C. Williams (2011) indicated that “young teachers leave the profession at a rate of 51 % higher than older teachers and transfer to a different school at a rate of 91 % higher than their older colleagues” (p. 10). Working conditions to include technology integration to increase student engagement and collaboration with colleagues were noted as areas that promote retention of today’s new teachers (Williams, C., 2011).

In further examining teacher burnout of new teachers, Ilagan (2010) researched the issue with first year teachers in South Carolina as a follow up to Holloman’s (1998) study of teacher burnout among novice teachers. Ilagan found statistically significant variances of burnout levels in the areas of school type, relationships with a mentor and teaching responsibilities and found that a variety of school and non-school stressors to be present for the sample studied. New teachers in urban and rural settings were found that have higher levels of Emotional Exhaustion, an indicator of burnout with the Maslach Burnout Inventory used in the study, than their counterparts in suburban settings (Ilagan, 2010). Novice educators in suburban and rural settings indicated lower levels of Personal Accomplishment on the inventory in comparison to urban educators signifying a higher level of burnout.

Attrition of educators seasoned and new exacerbates the demand for teachers to fill classrooms across the nation. Ingersoll and Merrill (2012) indicated the *graying* and *greening* of

the current teaching force in the nation. These researchers indicated that the teaching force is bimodal in respect to age with a large proportion of the teaching force being veteran teachers close to retirement with a simultaneous influx of newly minted and younger teachers (Ingersoll & Merrill, 2012). Ingersoll and Merrill also noted that there is a trend of an increase of mid-career changing such that there is an increase in the number of older but inexperienced teachers. Retirements of veteran teachers and burnout issues of new teachers leads to turnover within school districts affecting the available supply of educators to fill classrooms.

Specifically within North Carolina where the present investigation was positioned, the turnover of teachers was relevant lens through which to view the problem of teacher shortages. In a research policy brief by the Carolina Institute for Public Policy, it was found that over 70% of new teachers in North Carolina persist at least 5 years (*UNC Teacher Quality Research: Teacher Portals Effectiveness Analysis*, 2012). These data indicated that the majority of new teachers remain in the profession for five or more years. However, these data indicated that for every ten teachers trained within North Carolina, three of them leave before they become career status teachers. The attrition of new teachers is further compounded by teacher turnover within the state. In North Carolina, recent information gathered within the school systems across the state reported that over ten thousand of the approximately 96,000 teachers employed during 2010-2011 school year left their systems for a system level turnover rate of approximately 12% (*Teacher Turnover Report*, 2011). Rural counties in the eastern part of North Carolina that are served within WPE share the characteristic of having higher turnover rates than other counties within the state (*Teacher Turnover Report*, 2011). Teachers in North Carolina leave school districts for a variety of reasons including: retiring from the profession, moving to another district or state, or because of a family relocation (*Teacher Turnover Report*, 2011). Retirement

tops the reasons for leaving the profession with 20.32% of teachers who left in 2010-2011 falling into this category (*Teacher Turnover Report, 2011*). Such data is indicative of a rising trend related to retirement of teachers in the Baby Boomer age range. This fact, combined with new teachers leaving the profession before the completion of 5 years, demonstrates the complexity of the problem of teacher shortages. Not enough new teachers are produced; 30 % of those that are produced may leave before completing 5 years; and large numbers of veteran teachers are retiring. Veteran teachers often serve as mentors for new teachers who need support during their first years within a classroom. The research on new teacher burnout indicates that support is crucial such that increasing retirements impact persistence of new teachers within classrooms (Holloman, 1998; Hurr, 2008; Ilagan, 2010). Understanding the intricate ebb and flow of attrition compared to production makes it difficult to comprehend the problem as a whole.

Retention of teachers affects the overall demand for educators to fill classrooms within school districts where the student population continues to grow and Baby Boomer teachers continue to retire. Inextricably interwoven with the issue of retention is the concept of teacher quality. Guarina et al. (2006) examined the difficulty school districts face in ensuring quality when there were insufficient teachers to fill positions. Many districts are forced to hire long term substitutes, hire individuals who may not be of the highest quality, or hire individuals who lack teacher certification (Guarina et al., 2006). School districts must balance the need to have a body in the classroom with the need to have a quality educator who can positively impact student learning.

Additionally, increased pressures on school districts by state and federal mandates related to quality of teachers and their associated outcomes on student achievement have exacerbated efforts to retain teachers who are already employed. King (2011) reinforced this viewpoint by

noting that states must increase efforts to understand attrition data and contend with retention issues while also boosting efforts to increase production of new teachers. Rowan, Correnti, and Miller (2002), in their investigation of the effect of teachers on student achievement, found that professional preparation, content knowledge, and the utilization of teaching routines were supportive of promoting successful student achievement. Having a well prepared teacher mattered within their investigation.

In further looking at the literature on teacher quality as related to student achievement, Clotfelter, Ladd, and Vigdor (2006) also analyzed the effect of teachers on student achievement by engaging in teacher to student value-added methodology. In this study, teachers were linked to the achievement scores of the students they taught. Clotfelter, Ladd, and Vigdor found that teaching experience was consistently associated with positive student achievement. In a follow up study by these researchers, a larger data set from North Carolina was utilized to explore the relationship between teacher credentials and student achievement (Clotfelter, Ladd, & Vigdor, 2007). The implementation of a value-added model yielded the result that experienced teachers positively impact student achievement when compared to less experienced teachers (Clotfelter et al., 2007). This finding is consistent with other studies involving teacher to student matching (Boyd et al., 2009; Clotfelter et al., 2006; Kane & Staiger, 2008; Nye, Spyros, Hedges, & Konstantopoulos, 2004; Rivikin, Hanushek, Kain, & O'Brien, 2005; Rockoff, 2004; Sanders, Saxton, & Horn, 1998). The credentials of the teacher that included licensure from an undergraduate institution, the traditional method of teacher license obtainment, were positively associated with increased student achievement in comparison to teachers who held lateral entry licenses (Clotfelter et al., 2007).

Specifically, in looking at the issue of teacher impact on student achievement in North Carolina, the location of the present investigation, teachers who were prepared in traditional undergraduate institutions produced slightly greater student achievement gains than those that were prepared through alternative preparation programs with the exception of the Teach for America (TFA) teachers who performed better than most beginning teachers who were prepared in traditional undergraduate settings (*UNC Teacher Quality Research: Teacher Portals Effectiveness Analysis, 2012*). The population of Teach for America prepared teachers was relatively small compared to teachers prepared through other programs with only 10% remaining in teaching for 5 or more years (*UNC Teacher Quality Research: Teacher Portals Effectiveness Analysis, 2012*). However, many of the TFA teachers served the rural counties within eastern North Carolina, the geographic region where the majority of WPE graduates currently teach (*UNC Teacher Quality Research: Teacher Portals Effectiveness Analysis, 2012*). While TFA prepared teachers serve rural eastern North Carolina counties and positively impact achievement, long term gains in student achievement are not sustained since they remain in those districts for such a short period of time. WPE graduates, who reside in rural areas, serve the same geographic area but remain in those areas beyond what is typical for a TFA prepared teacher.

Additionally, Henry et al. (2011), in a precursor to their 2012 study, implemented a multi-level, statistical model that included extensive student, classroom and school level controls to ascertain the impact of teachers on classroom student performance. The study centered on the value-added impact on student achievement by teachers who were prepared within University of North Carolina system public institutions compared to other sources of teacher production. Henry et al. (2011) found that UNC system traditionally prepared teachers outperformed those

prepared by other sources with some UNC system institutions outperforming others in various subjects and grade levels.

Due to the inherent issues of supply and demand, teacher education programs have had to address ways to entice individuals into the profession. Evans (1993) shared that teaching is a unique occupation due to the fact that most individuals have had experience in a classroom due to mandatory attendance laws. Positive experiences within a classroom can serve as a motivating factor for the selection of teaching as a career (Evans, 1993). It stands to reason that negative experiences within a classroom may have the opposite effect of driving individuals to select alternate careers.

In further looking at those factors that impact recruitment into teacher education programs, Evans (1993) noted that compulsory attendance demonstrates to students on a daily basis of the conditions and resources available in schools. If a student in school observes their teachers being adversely affected by their working conditions, the attractiveness of teaching as a profession could be diminished (Evans, 1993). Related to working conditions is the issue of salary in comparison to other professions. While salaries vary across states, historically, teacher pay has not aligned with rising costs of living (Evans, 1993). Colleges and schools of education cannot utilize the promise of high salaries as an enticement into the profession.

Watt and Richardson (2010) in their study of motivating factors for the selection of teaching as a profession by undergraduates noted that a perception of low salaries for teachers existed within their study's participants' attitudes. This perception negatively affected a student's choice to pursue a degree in teaching (Watt & Richardson, 2010). In addition, these researchers found that social dissuasion, meaning others had discouraged teaching as a career choice, was a

mitigating reason for the study participants not choosing to pursue teaching (Watt & Richardson, 2010).

Additionally, students of today have a greater variety of career choices from which to choose. Teaching often served as one of the few careers found acceptable for women in years past (Evans, 1993). Women of today have greater options and choose alternate careers. Further, the still predominately female profession of teaching provides male students with few models of their gender which, according to Evans, may impact why males pursue other occupations. Females have more options and males have few models to encourage them to pursue teaching as a degree. These combined impact student choice to enter teacher education programs (Evans, 1993; Kyriacou & Coulthard, 2000; Watt & Richardson, 2010).

In further looking at those factors that impact teacher education programs' ability to recruit students into teaching degree programs, Kyriacou and Coulthard (2000) studied undergraduates' perceptions of why they would or would not pursue teaching as a career. They found that their study participants noted that better resources, higher salaries, and improvement in the working environments of teachers would serve as possible enticements to the profession (Kyriacou & Coulthard, 2000). Those in the study who would choose teaching as a career pointed to intrinsic motivators of sharing knowledge and being of service while those who would not choose teaching focused upon more extrinsic factors of salary and working conditions (Kyriacou & Coulthard, 2000).

Students selecting careers have much broader occupational choices and have a perception of the school environment which may serve to motivate or discourage the selection of teaching as a career. Working conditions and salary issues factor into students' selection of careers.

Colleges and schools of teacher education have to address the recruitment issues while simultaneously being pressured to produce more teachers to meet the demand for educators.

Production Mandates and the Role of Teacher Education Programs

In response to the problem of teacher shortages, mandates have been issued at the state level for teacher education programs to ramp up the number of graduates. Within North Carolina, where this study was located, the University of North Carolina General Administration (UNC-GA) set targets for production of teachers to meet the projected need of approximately 12,000 additional new teachers by the year 2014-2015 (Noel-Levitz Teacher Recruitment Plan-University of North Carolina System, 2007). Each college of education within the state was directed to create and implement a multi-year plan to meet their targets. Within the state, strategies to enhance the number of students entering teacher education from alternative and community college pathways were mandated by UNC-GA. Also, other states that were under pressure to generate more teachers also engaged in the development of a myriad of options to foster increased production. Arizona, California, Florida, Illinois, Maryland, Nevada, and Texas all created a range of responses to the problem of teacher shortages (Education Commission of the States, 2001). In a policy report by the Education Commission of the States (2001), the response by various states to the shortage included:

creating or strengthening partnerships between four-year institutions and community colleges; providing alternative teacher certification to adults who hold a baccalaureate degree; creating or expanding university centers at rural community colleges; facilitating student transfer from community colleges to four-year institutions; and offering mentoring, tutoring and counseling programs (p. 4).

The array of methods to increase production was at the impetus of state level governing bodies on the institutions and agencies that prepare educators (Education Commission of the States, 2001).

The University Center 2+2 Model: A Pathway into Teacher Education

To increase production of educators, teacher education programs have created an assortment of avenues to ramp up production. Alternative licensure programs where individuals with completed bachelor's degrees can obtain teacher certification through additional coursework. Lateral entry options also incorporate individuals who hold bachelor's degrees who are employed in school districts. While employed, the individuals complete coursework through distance education to obtain teacher licensure. The university center 2+2 model also provides a convenient opportunity by taking degree programs to community colleges in locations in close proximity to its students. In their discussion of the market for teachers, Boyd et al. (2005) found that a majority of new teachers teach within close proximity to their home town. For individuals in rural communities, access to teacher education programs is limited such that utilization of the community college as a pipeline for new teachers is warranted (Troumpoucis, 2004). Troumpoucis (2004) notes that community colleges cater to non-traditional students who feel more comfortable in a smaller environment that is similar to the rural community in which they reside. She noted that affordable access to educational opportunities in place bound geographic serves as a mediator to completion of a four year degree through 2+2 university center programs (Troumpoucis, 2004). Similarly, Floyd and Walker (2003) point out that rural areas where community colleges are more prevalent provide a pipeline of potential teacher education students who reside in those areas and who would otherwise not have access to a teaching degree in absence of the 2+2 university center model. Further, Townsend and Ignash (2003) noted in their

research that more than 40% of all undergraduates are enrolled at community colleges.

Community colleges are often located in rural areas and have strong ties to high schools in the areas that serve as a pipeline for community college enrollment (Townsend & Ignash, 2003).

Townsend and Ignash see these strong community ties as a marketing opportunity for increasing the pipeline of teachers who enroll in university centers at the community college.

Schuhmann (2002) described the role of the community college as a means to address issues of teacher shortages in rural areas. She noted that many community colleges have general education courses that readily transfer to four year institutions. Schuhmann described the need for greater collaboration in order to offer coursework beyond general education to courses related to education degrees. Similarly, Sileo and Sileo (2008) investigated the impact of online education in rural areas and noted that access to educational opportunities could be promoted through engagement in this type of educational programming. The 2+2 university center model provides this sort of collaboration by delivering the first half of the program in close proximity to the students at community college campuses and also guarantees online courses within cohorts for the second half of the degree.

Beyond offering coursework, Gerdman (2001) suggested that community colleges develop programs that are clearly articulated with four year institutions as well as provide counseling and support for students such that the barriers to teacher education degree completion are mediated. Grady (2005), in her study of the 2+2 university center teacher education students, found that community college students often cite distance from a university and cost as barriers for transfer from the community college to a four-year institution. She found that access to programs that were part-time and close to home were mediating factors for students' choice to engage in a 2+2 university center teacher education program. In addition, Grady found in her

study that having easy access to information and support in the transfer process were also important. Teacher education programs that provide convenient and affordable access to students within their geographic region at a community college provide potential students with motivation to enter teaching as a profession (Grady, 2005).

In further examining the 2+2 university center model, Gerdman (2001) noted that collaboration with local school systems was also a strategy to increase the pipeline of teachers in rural areas (Gerdman, 2001). The 2+2 university center teacher education opportunity was designed with cooperation from local community colleges and school systems in order to provide degree access to a broader range of students in rural areas as well as tap into the teacher assistant population employed within school districts. Rural areas are especially vulnerable to the impacts of the teacher shortage (Education Commission of the States, 2001; Hussar & Bailey, 2011; Noel-Levitz, 2007; *Teacher Turnover Report*, 2011). Teacher education graduates are less likely to locate in rural areas leaving these communities with a gap having individuals to meet the needs of their public schools (Noel-Levitz, 2007). The 2+2 university center model was designed as a “*grow your own*” model whereby partnerships with community colleges provide convenient access to teacher education degrees and rural school systems provide teacher assistants and other personnel to be a pipeline for introduction into teacher education degrees.

In further support of community college efforts to provide a viable pipeline for teachers, Coulter and Vandal (2007) proposed that with carefully articulated agreements that any community college can serve as a feeder for teacher education programs. They noted that the offering of introductory level teacher education courses on the community college campus would boost interest in teaching as a career. In alignment with Coulter and Vandal (2007), the 2+2 university center teacher education model investigated in this study incorporates articulation

agreements for general education courses to ensure that those courses transfer for any student who attends a North Carolina community college. In addition, the introductory level education foundation course is offered at the community college and also transfers for credit within all teacher education programs at the institution where this investigation was situated.

Similar to Coulter and Vandal (2007), Butterfield and Ciampa (2006) examined the 2+2 program offered at Volunteer State Community College in Tennessee. They noted that collaboration between the community college and the receiving university include careful negotiation of course transfer critical to support students who engaged in the 2+2 program studied. The deliberate mediation of transfer courses from the community college to the university setting was also addressed by Townsend and Ignash (2003) who examined the associate of arts degree in teaching programs within the state of Maryland. Within the state, students could obtain an associate's degree in the field of teaching and transfer this degree into a four year program. Butterfield and Ciampa (2006) also found that offering additional coursework through online platforms permitted Volunteer State Community College to provide a broader range of access to the 2+2 program than through face to face and on campus course offerings. Again, the 2+2 university center model investigated in the present study was designed to boost the number of teachers by offering degrees close to its students and through the incorporation of partnerships with community colleges. Articulation agreements and online course offerings were integral to the model that the present investigation sought to study.

Moreover, research on university center teacher education programs in Florida and Nevada demonstrated that attention to local politics, quality curriculum development, faculty integration, and partnerships forged with local school systems were critical in creating successful 2+2 teacher education models (Floyd & Arnauld, 2007). Floyd and Arnauld's (2007) measures

of success were job placement in the rural areas where the participants of the study began their program. While these researchers focus on the components of a successful 2+2 university center teacher education model that was mirrored in the 2+2 university center model of the present study, the study did not examine the student perceived factors that facilitated successful retention within the program and subsequent employment. Understanding the components of a model was noteworthy, but additional insight into retention factors was warranted.

In further review of the research related to 2+2 university center teacher education models, Locklear, Davis, and Covington (2009) also discussed the components of the model but additionally examined how students compare to traditional on-campus students within the model. Findings indicated that there were no significant differences in the quality of 2+2 university center graduates compared to on-campus students in a myriad of university-based, student quality measures. The quality of the university center graduate was determined to be comparable; however, indicators of critical factors for retention within such a program were not included in the research. A follow up investigation of Locklear's (2007) study was completed using a larger sample of 2+2 university center teacher education graduates (Lys, Covington, & Bilbro-Berry, 2011). Within the follow up study the 2+2 university center teacher education graduates were again found to be comparable to on campus students in quality measures (Lys et al., 2011). Once again, comparability on measures created by the institution yielded analogous results but did not provide information about those critical factors that motivated students to persist to degree completion as the current investigation sought to provide.

In analyzing whether the 2+2 university center teacher education model is an effective pathway for increasing numbers of teachers in the field, King (2011) investigated a community college and university partnership to ascertain the efficacy of the degree completion opportunity.

He found, through surveys of program participants, that characteristics of the program that included convenience of course delivery and support were deemed successful by the students within the model. King's (2011) results validated the 2+2 university center teacher education module as a viable pathway to recruit more teachers. The results also provided a glimpse of the factors that students within the study noted as instrumental for successful completion of the program. However, the study failed to highlight whether these factors for persistence were correlated to successful completion of the program and future employment within the field as the current investigation sought to validate.

Theoretical Frameworks

Tinto's Model of Persistence

The present study centered on persistence factors for a unique population of college students. As such, positioning the study within Tinto's (1975, 1987, 1997, 2012) theoretical model of persistence at the macro-level was warranted. In his early work, Tinto (1987) posited that persistence of college students occurs when they are integrated in both academic and social contexts. He noted that remaining enrolled is contingent upon the degree to which a student is successfully integrated academically and socially (Tinto, 1975). Tinto (1975), within his model of student persistence, first he proposed that there are various inputs that students bring to the academic arena that influence whether or not a student succeeds at becoming academically and socially integrated. He posited that a student's background to include family education level and prior experiences in academia serve as inputs into how well a student is integrated within a college environment (Tinto, 1975). A student who has been successful in school settings prior to matriculation would view the academic environment perhaps differently than a student who had a less positive experience (Tinto, 1975). Thus, integration academically and socially may be impacted. Similarly, Tinto proposes that a student's family background can influence academic

and social integration. A student whose family has members that are college educated and place a high value on a college education may have access to familial supports that promote integration that a first generation college student whose parents are not familiar with the college environment or expectations would lack (Tinto, 1975). In addition, Tinto also acknowledged other input factors that influence whether or not a student can be successfully integrated into a college environment such that they persist toward graduation. Financial, personal and family events can all influence the stress level of a student, which, in turn, affects their ability to manage academic and social expectations (Tinto, 1975). In the newest manifestation of his persistence theory, Tinto (2012) noted that financial resources for students are becoming more of a stressor for students in the current economy (Tinto, 2012). Financial and familial concerns can impact a student's ability to be engaged academically and socially (Tinto, 2012). In sum, who the students are and what they bring to the college environment paired with external factors and stressors have bearing on Tinto's idea of academic and social integration.

Student related inputs serve as the foundation for what occurs at an institution when a student matriculates and during their period of enrollment. Tinto (1975) theorized that academic and social integration involves a variety of activities that can predict whether a student persists. Tinto defined academic integration as involving course performance, satisfaction with coursework, identification with academic regulations and values, identification with the role of a student, and judgment about the value of what is being learned (Draper, 2008). He posited that students who feel successful and supported in their coursework and feel comfortable in the academic environment are more likely to express commitment to the institution in which they are enrolled (Tinto, 1975). Coupled with commitment to the institution is Tinto's notion that academic integration also impacts an individual's commitment to her/his goals. Strong academic

integration of a student impacts their decision to remain enrolled at an institution and achieve their academic goals (Tinto, 1975). Having professors that provide feedback and interact with regularly with their students can serve as a support structure for students. Tinto's academic integration involves support within the classroom but also access to resources to support learning (Tinto, 1987).

In his latest work, Tinto (2012) takes persistence theory to the next level by noting that student retention is shaped by the availability of clear expectations about the institution, about the specific program, and within courses in which students are enrolled. Tinto states, "Knowing the roadmap to success – the rules, regulations, and requirements for degree completion – is central to successfully navigate the path to timely degree completion" (p. 10). The 2+2 university center model studied in the present investigation involves an advisor working with students during their community college courses toward successful transfer and degree completion whereby expectations at various points during the program are relayed. The researcher sought to understand if this type of support makes a difference in persistence of the students included.

In addition to academic integration is Tinto's (1975) proposition that being socially integrated is important to college persistence. Draper (2008) in his summary of Tinto's research notes that social integration may be defined as a student's relationships with peers and faculty to include involvement in social settings. Enjoyment of the college environment is also an influential factor in social integration (Draper, 2008). A student who has friends and feels like he/she fits in is more likely to feel comfortable in the college environment and be committed toward the institution (Tinto, 1975; 1987). Further, interaction with peers as well as faculty matters such that a student feels connected to the institution thereby influencing commitment to the institution and her/his academic goals (Tinto, 1975). Tinto (2012) proposed continuous

feedback as instrumental in fostering student success. He remarked that dialogue between students and their instructors on a regular basis enhances knowledge gained but also builds relationships within the academic setting (Tinto, 2012). Tinto emphasized that periodic assessments that are integrated with feedback loops are effective in promoting classroom success.

Tinto's (1975, 1987, 2005) early work on student persistence has evolved over the years such that a model for institutional action takes theory toward practice. He posited that institutional commitment, high expectations, support, monitoring and feedback, and involvement are critical components of student success (Tinto, 2005). Tinto (2012) criticized his own work by noting that theorists, including himself, provide the components that are important persistence in college but fall short in providing information about ways to translate persistence theory into a theory of institutional action.

Tinto's (1975) theory of student persistence factors in individual student influences while also looking at institutional influences such that a student's assimilation into the college environment both academically and socially is important. Tinto (1997) noted that academic and social integration impact persistence in different ways where a student's persistence can be positively affected when the individual is integrated either socially or academically but more likely to persist when both factors of integration are present (Tinto, 1997). These macro-level ideas within Tinto's theory have varied implications depending upon the type of learner and the educational setting.

Application of Tinto's Theory for adult learners. A theoretical conundrum related to the way in which academic and social integration factors vary by institutional type regards the role of academic and social integration for adult learners. Tinto's (1997) idea that integration,

either academically or socially, impacts persistence is tied to connections that support integration. Relationships and interaction with peers and faculty support integration into the college environment (Tinto, 1975). Tinto (1997) proposed that learning communities where students take courses together foster integration and persistence. These learning communities address academic integration but at the same time foster a supportive peer network that goes beyond the classroom (Tinto, 1997).

Much research exists around the topic of social connections and engaging students within a community to facilitate better learning. However, the majority of that research centered on traditional undergraduate populations (Chickering & Gamson, 1987; Kuh, 2009; LaNasa, Cabrera, & Trangsrud, 2009). Chickering and Gamson (1987) remarked in their recommendations for the enhancement of student engagement for traditional undergraduates that frequent contact between students and faculty is a critical factor for student motivation and involvement. They suggested that institutions of higher education encourage engagement, through informal interactions with faculty in seminar settings, as well as with peers. Chickering and Gamson (1987) provided supportive examples of social engagement from Saint Joseph's College in Maine where faculty members conduct discussion groups about the characteristics of different types of learners and from Sinclair Community College in Ohio where students at that institution have a "resource group" (p. 3) consisting of peers, faculty members inside and outside their majors. Chickering and Gamson further expressed the importance of peer interactions by stating:

"Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with

others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions sharpens thinking and deepens understanding" (p. 3).

To further expound on the notion of social engagement within learning settings and in partial response to Chickering and Gamson's (1987) work, Kuh (2009) developed the National Survey of Student Engagement (NSSE). First, he provided a definition of engagement as "the term usually used to represent constructs such as quality of effort and involvement in productive learning activities" (Kuh, 2009, p. 6). The NSSE provided a means for which engagement could be measured in order to indicate the relevance of engagement as a means to foster persistence. The instrument looked at the behaviors of students, the actions and requirements set forth by an individual institution, students' reactions to the college environment as well as student background information. Kinzie and Pennipede (2009) went beyond a description of the NSSE to expand on the use of the data from the instrument within different university settings to illustrate appropriate use of the instrument. Within their analysis, they noted that results from the NSSE provided college education leaders with a snapshot of students. However, connections to student demographic information were crucial to understanding a fuller picture of the students at the institution. In one example from the Georgia Institute of Technology, Kinzie and Pennipede (2009) communicate that officials there found that the items from the NSSE including participation in a variety of field experiences, relationships with peers, and encouragement to attend campus events were predictors of first-year student persistence. Again, we see that engagement with others enhanced learning and served as a motivator for continuance within a learning context.

The 2+2 university center teacher education model, studied in this investigation, is a distance education program, but the cohort model within the program permits relationships with

peers and involves multiple opportunities for field work. An understanding of whether those peer interactions within the university center model was worthy of investigation and may align with data included in NSSE results.

While use of the NSSE has been an impetus for increasing student engagement at many institutions as a way to impact retention, wholesale adoption of practices from the results should be entered into with caution according to LaNasa, Cabrera, and Trangsrud (2009). These researchers questioned the instrument's construct validity and widespread use at institutions. LaNasa et al. (2009) noted that the NSSE benchmarks were and are presumed to illustrate areas of best practices for institutions to implement and boost student persistence. Within their study of a first-time freshman cohort at an urban university, they emphasized that the assessment of engagement involved a myriad of factors that cannot be assessed by the NSSE (LaNasa et al., 2009, p. 326). The researchers proposed that additional information, especially regarding diverse populations, was necessary.

Along these same lines, Chambers and Pooch (2011) in their analysis of 2009-2010 NSSE data looked at student engagement related to positive outcomes for African American women as compared to their female cohort and males in general. They found that African American women engagement level for the active and collaborative learning benchmark was significantly higher than their female counterparts as a whole denoting that African American women are more collaborative than women of other ethnicities. Chambers and Pooch also found that African American women interact in a greater capacity with faculty than other women. The researchers expressed that African American women engagement is high but note that whether or not this engagement produces positive outcomes is still unclear based on their analysis and suggest deeper investigation of engagement for diverse populations (Chambers & Pooch, 2011).

Beyond the use of research on NSSE data but related to Tinto's theory, Ashar and Skenes (1993) also questioned the wholesale adoption of Tinto's (1975; 1987) theory in application to nontraditional students. These researchers criticize the early versions of Tinto's model since it does not distinguish specifically between traditional (18-22 year olds) and nontraditional student persistence and how the model can be utilized in nontraditional learning environments (Ashar & Skenes, 1993). Ashar and Skenes introduce the idea that social support for adult learners is more likely to involve family members since these nontraditional learners generally do not reside on campus, work full-time, and may be married with children. Social integration with peers at the educational institution does not serve as a mediating factor as social relationships for adult learners occurs mostly outside the institution (Ashar & Skenes, 1993).

Additionally, P. Williams (2011) focused upon nontraditional students and their persistence in higher education in her qualitative study of African American female students. To frame her study, she brings in the work of Taniguchi and Kaufman (2005) who noted that for nontraditional students' part-time enrollment and family-school circumstances negatively impact retention of this population. Williams found within her interviews that family situations proved to be both a positive support and a stressor. Fulfilling the roles of family while being enrolled in courses created issues for some of the study participants (Williams, P., 2011). However, the women studied noted that support and encouragement from family were positive influences on their continued persistence within their programs (Williams, 2005). Williams also found that financial and work related challenges factored in as stressors to the females in her study which align with Tinto's (1975) individual characteristics proposed in his persistence model. The present study sought to determine if individual student characteristics as well as various support structures lead toward positive outcomes for nontraditional students.

To expand the utilization of Tinto's work as the macro-level theoretical frame for the present study in relation to adult learners, Tinto (1975) posited the idea that students possess characteristics that motivate them to persist or not within college. However, for the adult learner motivation to be successful and committed toward completion is often tied to career enhancement (Ashar & Skenes, 1993). Ashar and Skenes (1993) suggest that academic and social integration to promote persistence should involve a strong career culture within the institutional environment. These researchers note that Tinto's work falls short in fully capturing the nuances of engagement for the nontraditional, adult learner (Ashar & Skenes, 1993).

With additional examination of Tinto's (1975) theory of student persistence, Cleveland-Innes (1994) also questioned the application of its tenets in relation to adult learners. In her study comparing commuter students who were both of traditional and nontraditional age, she found that nontraditional students' level of commitment served as the only viable predictor for retention as opposed to traditional students where academic integration had a direct effect on retention. Cleveland-Innes did find for nontraditional age students that consultations with faculty significantly affected the students' social integration. This was not a significant factor for traditionally aged students in the study. Additionally, Cleveland-Innes found that choice of university and high school average had significant effects on institutional commitment. She posits that for nontraditional students the lack of mobility due to family obligations serves as an impetus to select institutions that are geographically close to their places of residence (Cleveland-Innes, 1994). Cleveland-Innes suggested that the effect of poor high school performance on commitment for nontraditional students may be related to the perception by these students that performance in college could be considered a second chance.

The present study looked at similar factors included with the NSSE that are related to student motivation to persist toward degree completion and employment. Through a deeper examination into a unique population included within the present research sample, additional information was yielded that may be useful for institutions that have large populations of nontraditional students. Cleveland-Innes, within her study, validated components of Tinto's (1975, 1987) theory but suggested that application of the model in an institutional setting be adjusted for the nontraditional adult learner. Planned consultation with faculty and academic supports for this population were factors for persistence within the Cleveland-Innes study and were applicable to the current investigation that includes a sample of nontraditional students.

Merriam, Cafferella, and Baumgartner (2005) provided further insight into the adult learner experience and Tinto's (1975) theory of the student factors that impact academic and social integration. They, and others, proposed that adult learners often have family and work obligations which influence their ability to matriculate and commitment to an institution (Merriam et al., 2005). Their motivations for learning were often career related and their interactions with others while enrolled were related to the academic setting (Merriam et al., 2005). According to these researchers, previous experiences in academic settings that were negative served as a barrier for applying to college but also influenced into the nontraditional student's perception of success within the academic environment (Merriam et al., 2005). Additionally applying Tinto's notion that various student support mechanisms impact students' decisions of persistence were reflected in Merriam et al.'s investigations of adult learners. They noted that adult learners need institutional supports and information to foster persistence toward degree completion (Merriam et al., 2005). I sought to determine if student backgrounds and supports within their program factored into positive performance outcomes.

To further expand upon the review of available literature on engagement of nontraditional students, Conrad (2005) explored community building and outlined how relationships were built within a cohort of graduate students in an online program. Her findings noted that online students, while engaged in virtual learning, found support and friendships within the online learning environment. Similarly, Stein, Wheaton, Calvin and Overton (2003) investigated the means by which online, undergraduate and nontraditional, graduate learners created community in a virtual environment. The sense of trust and shared hardships in the coursework enabled a connection among the learners within the study to feel connected. Related to the idea of building trust within a community of online learners, Bilbro-Berry (2012) found, in her qualitative study of persistence factors for online 2+2 university center teacher education graduates, that the connectedness of the students was critical for continued persistence within the program. Students within her study completed all coursework in an online setting and utilized various social network technologies to interact (Bilbro-Berry, 2012). Graduates interviewed in the study shared that because of the strong social bonds built in the virtual environment they felt a sense of withdrawal after graduation (Bilbro-Berry, 2012). While the notion of cohort support was alluded to within previously mentioned studies, these investigations did not provide definitive indicators that collegial relationships and social engagement were influential in persistence toward program completion (Bilbro-Berry, 2012; Conrad, 2005; Stein et al., 2003).

Application of Tinto's Theory at community colleges. Tinto (1994, 1997) acknowledged that academic and social engagement as persistence factors differ qualitatively and in importance, depending upon the educational settings. Academic and social integration are more critical to persistence of students attending a four-year institution than those attending two-year institutions (Tinto, 1997). This finding he attributed to the varied academic and social

attributes of two-year and four-year as well as the types of students that are served at both (Tinto, 1997). Those in two-year institutions are generally not residential, and interactions with peers and faculty occur primarily in the context of the classroom (Tinto, 1997).

Further related to the importance of integration as a factor for persistence, Tinto (1997) found varied pathways into integration to include involvement within and outside the classroom setting. The notion of academic involvement is interwoven with integration, and those students who are involved either within or outside of the classroom setting are more likely to persist (Tinto, 1997). Specifically, for the community college population, Tinto posited that the classroom serves as the primary vehicle for involvement outside of the classroom and involvement positively impacts persistence. For the community college student, interaction and involvement flows from the classroom and when effective, can lead to persistence for that population (Tinto, 1997).

As previously noted, the NSSE provided information about the engagement of students at four year institutions but did not address the engagement of students at the community college. The Community College Survey of Student Engagement (CCSSE) was developed with the theoretical basis of Kuh's (2001) work on students engagement for the purpose of providing guidance to community colleges to promote retention at that level (McClenney, 2007). McClenney (2007) provided an update on the use of the CCSSE with findings that indicate engagement within the academic environment continues to be an indicator of achievement and persistence within the community college. Interestingly, in her analysis of CCSSE results, McClenney noted that part-time students, which constitute the majority of community college population, were less likely to engage in work with classmates and interactions with professors as compared to full-time students. Based on McClenney's (2007) analysis, the need to design

opportunities for engagement and support can foster better persistence for community college students to include part-time students.

To additionally explore the notion of engagement as a factor of persistence with nontraditional populations like those at community colleges, Kisker (2007), within her study of community college and university partnerships in Southern California, investigated the idea that social connections were important in engaging students in learning. Her findings indicated that university faculty presence on community college campuses as a way to build interactions was important (Kisker, 2007). In addition, the use of peer tutors who worked in classrooms at community colleges and were trained using the university model for tutoring were employed to promote transfer success of the community college students (Kisker, 2007). While Kisker's investigation included information about nontraditional transfer students and emphasized faculty to student and student-to-student interactions, the study did not investigate whether the engagement with others made a difference in continued persistence within a transfer program.

Tinto and Russo (1994) specifically addressed learning communities at the community college level by examining efforts the Coordinated Studies Programs (CSPs) at Seattle Central Community College. They found that student outcomes were positively impacted at these institutions when faculty and student affairs staff interacted with learning communities. Within the CSP study, friendships formed within the peer support group were viewed as important to the study participants and continued outside of the classroom setting (Tinto & Russo, 1994). In addition, the peer groups supported by faculty and student support staff were found to serve as a mediator between academic and social aspects of the community college environment (Tinto & Russo, 1994).

Tinto's (1975, 1987, 1997, 2012) theory of persistence and retention, while it has evolved over time to include more practical applications, provided a macro-level frame for the present study. The theory looks at community college persistence and four-year institutional persistence. The 2+2 university center model spans both institutional environments. Issues of integration to include involvement, support and interactions in both settings are present within the 2+2 university center model and Tinto's theoretical underpinnings provided a springboard for further investigation of the 2+2 model.

Communities of Practice

Tinto's (1975, 1987, 1997, 2012) student persistence theory provided a macro-level frame for the present study in that it outlines the factors of individual attributes, institutional factors, academic and social integration as mediating for student persistence. However, the theory fell short at capturing a nontraditional population of students who span both 2 year and 4 year academic settings. As such, I utilized Wenger's (1998) *Communities of Practice* as an additional theoretical frame for this investigation. Wenger emphasized that the shared experiences beyond the specific content to be learned not only created a sense of community among individuals, but also facilitated the learning of the content. The student sample studied comprises individuals who were grouped within a cohort. Wenger proposed that his theory's primary focus is "on learning as social participation" (Wenger, 1998, p. 4). He emphasized that students, by nature of being human, are social beings that through interaction with each other in the learning context construct knowledge and their own identities as participants in the learning community. Wenger stressed that his "social theory of learning" (Wenger, 1998, p. 4) involves an understanding that the learning process is inextricably connected to social participation. Wenger (1998) supported the idea of peer interaction in a learning environment:

“They act as resources to each other, exchanging information, making sense of situations, sharing new tricks and new ideas, as well as keeping each other company and spicing up each other’s working days.” (p. 47)

The theory’s components include the social context in which participants create meaning and engage in practices that assist the development of meaning and identity as a learner. In addition to these components, Wenger’s theory incorporated a focus on community and the embedded social configurations within that context, as well as how the acquisition of knowledge affects the perception of a learner’s identity and approach to the learning context.

Within the present investigation, the concept of cohort support as a motivator for continued persistence within the program toward successful completion of the degree was examined. The social interactions within the cohort may be reflective of Wenger’s (1998) statement that “the learning that is most personally transformative turns out to be the learning that involves membership in these communities of practice” (p. 6). Students within the 2+2 university center model take the same courses, share similar class experiences, and interact with each other within the context of their learning. Wenger (1998) noted that content knowledge does not occur in isolation and that “knowing” (p. 10) is integrated through engagement with others in the learning community. The present study sought to discover whether the engagement with cohort members is connected to successful completion. The correlation of whether being a part of a cohort, or community of learners, was analyzed as a factor for continued persistence for current students which integrated with Wenger’s claim that learning is more successful in an active community.

Along these same lines, Wenger (1998) suggested that “working with others who share the same conditions is thus a central factor in defining the enterprise they engage in” (p. 45). The

participants in the present study were not only similar in how they progress through the program together but also shared analogous demographic characteristics. Was it the model that promotes successful completion of the teacher education program; was it the interaction between the students themselves; or, did successful completion relate to the demographic characteristics of the students within the model? By utilizing Wenger's *Communities of Practice* as a frame for the investigation, information related to these questions was discovered.

Issues of Retention within Distance Education Programs

The idea of developing community in order to facilitate learning is closely related to Tinto's (1987) concepts of academic and social integration. He purported that if students perceived connectedness, they are more likely to persist (Tinto, 1987). While the majority of Tinto's work centered on the traditional-age student in an on-campus setting, his work with the Coordinated Studies Programs does address integration of community college students into learning communities (Tinto & Russo, 1994). Other researchers also allude to the idea of sense of community as a mitigating factor for retention of traditional age, on-campus students but also focused on distance education settings (Boston, Ice, & Gibson, 2011; Cowan, 2012; Drouin & Vartanian, 2010; Hermans, Haytko, & Mott-Stenerson; Otte, 2007; Spellman, 2007). Within their study comparing face to face and online psychology students, Drouin and Vartanian (2010) found that online students tended to be more mature, and the females in the study felt a greater sense of social connection than males. The researchers found regarding the online students that "when online students are given the opportunity to form connections with the classroom community (including the instructor and other students) and a sense of connectedness is present within the learning community, students are more satisfied and report higher levels of learning" (Drouin & Vartanian, 2010, p. 149). Similarly, Cowan (2012) based his investigation of a hybrid

master's program on Wenger's (1998) *Communities of Practice*. His study indicated that community building activities were connected to greater completion rates within the program (Cowan, 2012). Within the current investigation, the cohort model is used within a distance education environment. Further investigation of this model to determine if social connectedness to cohort members plays a role in successful performance outcomes was of interest and may add to the literature about student persistence in distance education settings.

Within Boston, Ice, and Gibson's (2011) study of student retention in online environments at the American Public University System, findings indicated that the amount of online coursework students had taken previously was important. The longer students were engaged in online coursework, the longer they persisted and were retained within their programs (Boston et al., 2011). To relate to the 2+2 university center model of the current investigation, students have been advised to complete courses online in the community college setting prior to transferring into the second half of the teacher education degree program through distance education offered by the university. In addition, Boston et al. (2011) also discovered that participants in the study engaged in "swirling," (p. 9) which involved students taking classes at multiple institutions. The researchers noted that due to engagement in multiple institutions by online students that much of the research on retention of these students fails to provide a clear picture of the issue at large (Boston et al., 2011; Marklein, 2005; Rovai, 2003). Since the model investigated involved working with students who often attend multiple community colleges prior to completing the first half of the teacher education degree, an understanding of whether the support given throughout the 2+2 endeavor was investigated to determine if the support was a mediating factor against the issue of "swirling."

Current research demonstrates a fair amount of investigation about the retention of students in an online setting, but only a few focus on the older, nontraditional student (Boston et al., 2011; Conrad, 2005; Heyman, 2010; Otte, 2007; Roberts & Styron, 2010). However, Hagedorn (2005) specifically and longitudinally studied a population of adult learners similar to those investigated in the present study. Her findings noted that individual motivation by older students, institutional accommodation for adult learners, and flexibility of course delivery contributed to retention of students in online programs (Hagedorn, 2005). Hagedorn (2005) also found that it was more common for nontraditional students to “stop out” (p. 27) than the traditionally aged student, indicating the importance of “fit” (p. 25) of the education environment within the lifestyle of the adult learner. Bean (2005) also addressed the older student in the area of retention by noting the importance of support for the older adult learner in navigating the “bureaucratic factors” (p. 229) involved with attending a four year institution.

In further examination of the literature regarding nontraditional learners in a distance education environment, Heyman (2008) explored the phenomenon of retention by comparing retention rates of fully online and campus-based students. In the study, Heyman found that support of students, connections to the institution, quality faculty interactions, and individual self-discipline were all important in relation to retention within online programs. Once again, the idea of connectedness surfaces in the literature about nontraditional distance education students. The 2+2 university center model provides support in the form of a university employee, but it was unknown whether this support along with faculty interactions or other factors were related to successful persistence within the model.

Summary

The issue of teacher shortages across the state, especially in rural areas, is a complex one. The disparity between the number of teachers produced and what is needed to fill classrooms across the nation in states where student populations are growing is exacerbated by issues of attrition of current educators. Mandates for production of new teachers have led institutes of higher education to engage in partnerships with community colleges to create another avenue for teacher production.

The typology of university centers for the purpose of teacher education has emerged as a response to the teacher shortage. Research about the collaborative partnerships with community colleges and universities who adopt the university center model provide information about the viability of the model to produce comparable educators in comparison to traditional teacher education programs. However, the literature about the university center model for teacher production emphasizes the components of creating such models to generate greater access to teacher education degrees but did not examine in depth those factors that motivate students to engage in and complete such programs.

In addition, Tinto's (1975; 1987; 2012) theory of persistence was an appropriate macro-level foundation in which to situate the present study. Application of the principles of individual and external characteristics that impact students' academic and social integration such that they persist toward completion was relevant. Additionally, understanding the role of learning communities in alignment with Wenger's (1998) *Communities of Practice* positioned the study to perhaps provide deeper insight into the perceptions of students within the 2+2 university center program to better comprehend whether the components within the cohort model foster student persistence and positive performance outcomes.

The research around the support and retention of students in online settings exists but fell short in providing a detailed picture of the 2+2 university center teacher education student. While the previously mentioned studies allude to retention factors for the nontraditional student, they did not specifically address students in teacher education programs in their investigations. The present study sought to fill a gap in the literature by focusing on student persistence within a 2+2 university center teacher education model through an examination of factors that motivate students to persist within the model and toward completion.

CHAPTER 3: METHODS

Statement of the Problem

Research exists about the university center model for teacher education, general student persistence within college, and student persistence within distance education programs. However, the present study sought to examine the 2+2 university center teacher education model specifically to determine if relationships exist between the unique characteristics of the model participants, their perceptions of the model, and performance outcomes. The research addressed the existing gap in the literature about 2+2 university center pipeline of production of teachers regarding those factors that foster continued persistence within a 2+2 university center program.

Description of the Site

Students within WPE are generally of nontraditional age, with the average age falling within the 30 to 35 year age range. The majority of WPE students work full-time while completing their teacher education degree part-time. In previous years prior to this study, over 50% of WPE students were employed as teacher assistants in partnering school districts. Current data about the program indicates that 30% of students are employed as teacher assistants. In comparison, on campus students at the institution that house the WPE program are younger and with the majority falling into the traditional college age with the median age being 21 years. In addition, very few on campus students work as teacher assistants constituting less than 1% of the total on campus teacher education population.

Students are grouped into cohorts that proceed through the program part-time in a lock-step plan taking two to three courses per semester. In comparison to the on campus students who take their courses face to face on the university campus, WPE coursework is presented primarily online or with limited face to face courses delivered at a community college rather than at the

university. Students transfer primarily from 21 different community college partners who are predominantly located in eastern North Carolina. All students who are admitted to the program are required to have taken coursework at a North Carolina community college prior to being admitted into WPE. On campus teacher education students at East Carolina University generally matriculate directly into the university as freshman. However, in fall 2012, 1066 students transferred to ECU from the community college and other four-year institutions; and of these, 14% ($N=147$) had intended teacher education majors. Curricula, standards, and required fieldwork are the same for WPE 2+2 students as is required of students who attend courses on campus. The general education courses at the community college have been articulated with East Carolina University and are the same required for on campus majors in education. In addition, WPE students may choose to pursue a degree in elementary education, special education-general curriculum, or middle grades education, with two of three concentrations to include math, science, and language arts. On campus students have more choice in teacher education degrees to pursue. However, as with the WPE 2+2 university center model, the majority of those within teacher education at East Carolina University are elementary education students. Further, WPE elementary and special education students have a 24 hour course requirement in reading which leads to an additional license in reading education. Elementary and special education students on campus are required to have an 18 hour concentration of additional content knowledge which can be selected from a myriad of options. WPE students are prescribed their concentration whereas on campus students are given broader choices. Outcome measures for WPE students are the same as on campus students to include required coursework and internship-related assessments. The delivery method for the coursework through online

instruction is the only difference between the WPE 2+2 university center model and on campus programs.

East Carolina University (ECU), the institution at which the students within the sample are enrolled, is a public doctoral degree institution. The institution is the third largest in the University of North Carolina (UNC) system which consists of sixteen degree-granting public institutions. ECU is accredited by the Commission on College of the Southern Association of Colleges and Schools and confers more than 5,800 degrees annually (Ballard, 2012). The university is located in the coastal region of North Carolina and serves a large rural geographic area (Ballard, 2012). Of the 27,000-plus students enrolled, 23 % are minorities and 77 % are white non-Hispanics (Ballard, 2012). With a mission of access to degrees for eastern North Carolina, ECU utilizes distance education to broaden educational opportunities with 21 % of all students at the institution enrolled in completely distance education coursework (Ballard, 2012). ECU is considered to be a large, four-year institution according to data from the Carnegie Foundation (Carnegie Foundation for the Advancement of Teaching, 2012).

WPE cohorts are advised throughout the duration of their program by a full time university employee who is located at one of five hub-sites on community college campuses. The advisors at each of the five hub-sites assist students while students are enrolled at the community college to ensure that students enroll in the appropriate community college courses that are articulated for transfer to the four year institution. Once admitted to the four year institution, cohorts are assigned one of the community college-based university advisors. These advisors meet with students for mandatory advising sessions each semester. Advising sessions are conducted face to face at the community college hub sites, at partnering community colleges, or via Skype or online chat rooms in order to provide convenience for students. The WPE advisors

also are charged with recruiting new applicants from the community college and teach the introductory elementary education course for their WPE elementary cohorts. Comparatively, on campus education majors are served by an on campus advising center prior to admission to upper division. Upon admission to upper division coursework, students are transitioned to a faculty advisor. Students within WPE are served by the same advisor during all of their years while enrolled in the second half of the 2+2 degree.

Description of the Sample

The study was conducted using a group of 2+2 teacher education students who represented students who have transferred from North Carolina community colleges into East Carolina University. To enter the program, students must complete a prescribed set of general education courses at a North Carolina community college, have a 2.5 or better GPA on those transfer courses, and have taken the Praxis I exam to show proof of basic competency in literacy and mathematics. After transfer to the program, students are grouped into cohorts by their year of entry and major of elementary, middle grades, or special education. The cohorts complete the same courses online for their degree programs and are instructed by university faculty. The degree completion programs offered through WPE are part-time and take students from two and a half to three and a half years to complete after transfer from the community college. Students take two to three courses per semester including summer sessions. The courses required for each degree are the same as for on campus students with the only difference being that the part-time delivery model is through distance education rather than face to face instruction. The 2+2 university center model is designed for students who are not able to travel to campus or complete their coursework full-time.

Methodological Model

The current study focused on understanding the factors involved in mitigating persistence within the WPE program toward measurable outcomes of student performance, successful completion of the program and subsequent employment within the field of education. The outcomes of student performance included grades in professional core coursework associated with a specific major, pedagogical knowledge required all teacher education students, and competency as assessed by the Praxis II exam which is required for licensure for elementary and special education students. In addition, proficiency in the application of pedagogical and content knowledge into practice through coursework during the internship semester also serves as an outcome of student performance and was assessed through the Teacher Performance Assessment (edTPA) portfolio. Further, performance in reading courses was examined since additional coursework in this area of content is required of the majority of the students in the sample. Figure 1 provided a methodological framework for the present study.

Figure 1 illustrates the relationships that were investigated within the present study. Student performance outcome measures served as the indicator of student persistence and the dependent variables. Seven dependent variables related to student outcomes were investigated in this study to include: graduation from the program; employment within the field of education; performance in professional core courses including the senior I and II courses; performance in reading licensure courses; final GPA of graduates; Praxis II scores for graduates that are required to have this examination for licensure; and the composite student performance on the edTPA portfolio.

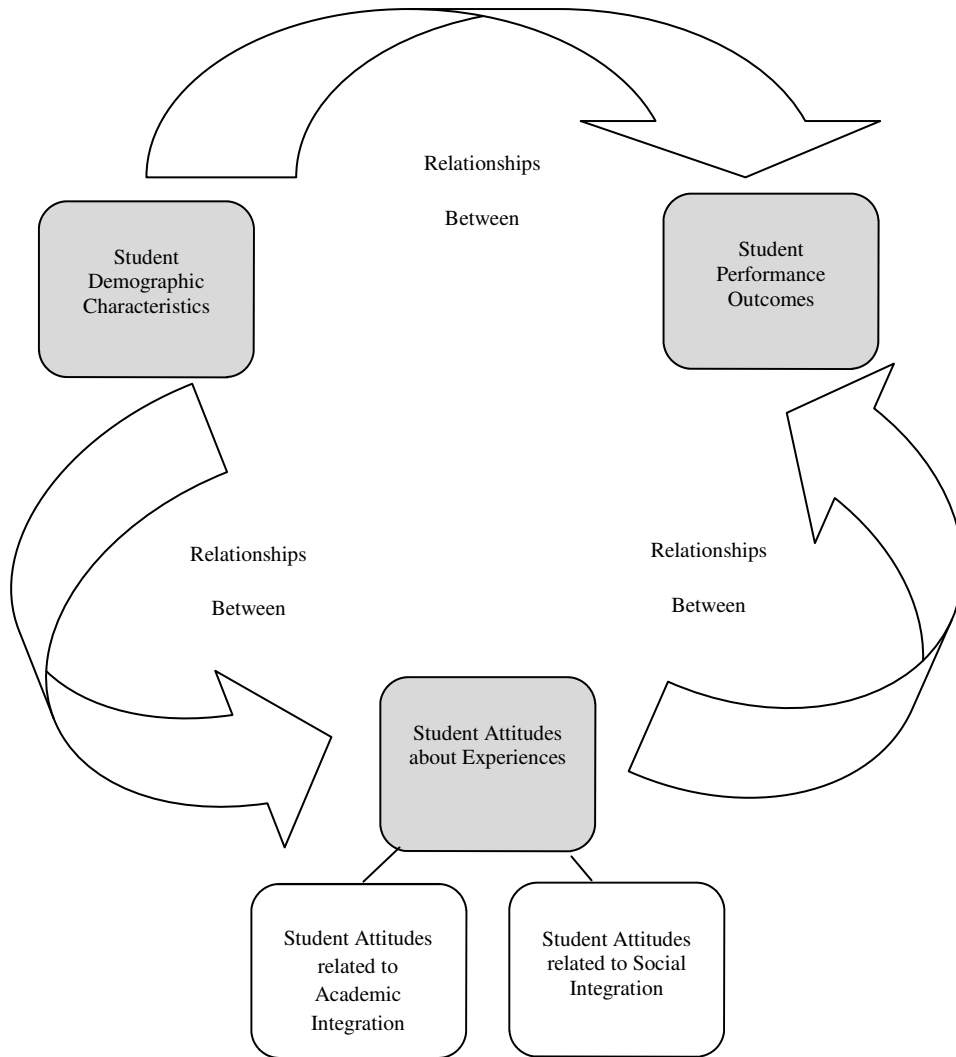


Figure 1. Methodological model.

Tinto (1975, 1987, 2005) noted that academic integration includes performance in courses. As such, performance in several categories of courses was included within the methodological model for this study. Specifically related to course performance, grades in 2123 introductory courses (ELEM 2123, MIDG 2123, SPED 2123) and EDUC 4400 were included as a performance outcome. These courses are required for all teacher education students and serve as foundational knowledge for the profession of teaching. Performance in the Senior I and Senior II courses include an application of pedagogy and content knowledge into practice. All teacher education students at ECU, regardless of their program area, are required to meet certain criteria in order to take the Senior I and II courses which include admission to upper division. The upper division admission includes a 2.5 grade point average, obtaining a C or better grade in the 2123 introductory course, an interview, a required essay and passing scores on the Praxis I test. The performance outcome of grades in reading courses were selected a measure within the methodological model as a means to examine the additional content area of literacy which is required for the majority of the students within the present sample.

The previously mentioned student performance outcome measures were examined for possible relationships between the student characteristics of: major; gender; race; age; work status; work status within the public schools; connection to the military; educational funding used; rural designation of the student's county of residence; program entry GPA; and Praxis I entrance exam scores. In addition, student outcome measures were analyzed for associations between students' attitudes about the 2+2 university center teacher education model to include attitudes about academic integration and social integration related to Tinto's (1975; 1987; 2012) theory of persistence. Student attitudes about academic integration included attitudes about: instruction received; support from instructors; advising received; program structure; and other

support received. Student attitudes about social integration included attitudes about: communication and interaction with instructors; communication and interaction with advisors; and support from classmates. To extend beyond relationships to outcome measures, an exploratory analysis of relationships between student characteristics and student attitudes was also incorporated to provide additional information about the reasons students persist within the model.

Research Questions/Grouped Null Hypotheses

I investigated the following research questions to determine if any relationships existed between student's attitudes about the program, the students who participate in the program, and student performance outcome measures to include the attainment of degree completion and subsequent employment in the field of teaching. I focused on student attitudes about advising, instruction, and support received within the program as well as investigated commonalities among students that complete their degree.

Student Characteristics and Student Outcomes

1. Are there any relationships between student demographic characteristics and student performance outcomes?

This research question addressed possible relationships between student characteristics and student outcome measures. Student characteristics served as independent variable for the present study and are defined as: major; gender; race; age; work status; work status within the public schools; connection to the military; educational funding used; rural designation of the student's county of residence; program entry GPA; and Praxis I entrance exam scores. These were the factors that students come into the program with and remain fairly constant during a student's enrollment. The demographic characteristics can be related to Tinto's (1975) idea that

students possess characteristics that motivate them to persist or not within college. Examining those characteristics of the 2+2 university center student in relationship to student performance outcome measures yielded limited information regarding are certain characteristics that may foster better student outcomes.

Significant findings related to student demographic characteristics and performance outcomes were not anticipated since grades tend to be homogenous for the majors included within the study sample. In addition, variance among the student characteristics within the sample was small such that any findings of significance should be examined with caution. Student performance outcome measures, the dependent variables, were defined as: graduation; employment after graduation; performance in professional core courses; performance in reading licensure courses; overall edTPA scores; performance on Praxis II exams; and final GPA.

Student Attitudes and Student Outcomes

2. Are there any relationships between student attitudes about academic integration within the 2+2 university center teacher education model and their performance outcomes?
3. Are there any relationships between student attitudes about social integration within the 2+2 university center teacher education model and their performance outcomes?

These research questions addressed possible relationships between student attitudes and student outcome measures. Student attitudes were defined as the independent variables and divided into the categories of attitudes about academic integration and social integration as grounded within the theoretical frames for the present study. Student attitudes about academic integration were defined as: attitudes about instruction received; attitudes about advising received; attitudes about other support received; and attitudes about program structure. Student

attitudes about social integration were defined as: attitudes about communication with instructors; attitudes about communication with advisors; and attitudes about support from classmates. Student outcome measures served as the dependent variables are defined as: graduation; employment after graduation; performance in professional core courses; performance in reading licensure courses; final GPA; performance on Praxis II exams; and composite performance on the culminating edTPA portfolio.

Student Characteristics and Student Attitudes

4. Are there any relationships between the characteristics of the 2+2 university center teacher education students and their attitudes about academic integration within the 2+2 university center teacher education model?
5. Are there any relationships between the characteristics of the 2+2 university center teacher education students and their attitudes about social integration within the 2+2 university center teacher education model?

These research questions addressed the exploratory analysis of possible relationships between student characteristics and student attitudes. Student characteristics were defined as: major; gender; race; age; work status; work status within the public schools; connection to the military; rural designation of students' county of residence; educational funding used; program entry GPA; and Praxis I entrance exam scores. Student attitudes were divided into two categories to include attitudes about academic integration and social integration. Student attitudes about academic integration were defined as: attitudes about instruction received; attitudes about advising received; attitudes about other support received; and attitudes about program structure. Student attitudes about social integration were defined as: attitudes about

communication/interaction with instructors; attitudes about communication/interaction with advisors and instructors; and attitudes about support from classmates.

Based on the research questions, the following grouped hypotheses were investigated.

1. There is no significant relationship between student demographic characteristics and student outcome measures of 2+2 university center teacher education candidates.
2. There is no significant relationship between student attitudes about academic integration and student outcome measures of 2+2 university center teacher education candidates.
3. There is no significant relationship between student attitudes about social integration and student outcome measures of 2+2 university center teacher education candidates.
4. There is no significant relationship between student demographic characteristics and student attitudes about academic integration within the 2+2 university center teacher education model.
5. There is no significant relationship between student demographic characteristics and student attitudes about social integration within the 2+2 university center teacher education model.

Instrumentation

The construction of the WPE Status Survey in Appendix A was completed in collaboration with the East Carolina University College of Education's Assessment Office as a means to understand student attitudes of the 2+2 university center teacher education students. Babbie's (2010) outline of questionnaire formatting and item ordering was used in the composition of the survey. Further, survey items with matrix categories according to Babbie's suggestions were incorporated into the survey design as well as items using a Likert scale. The

initial administration of the survey was given in fall 2010 to pretest the instrument and did not incorporate identifiable student information. Additional administrations of the survey were given in spring 2011 and fall 2011. These two administrations will be utilized to determine the reliability and validity of the survey as a viable means for understanding student attitudes of the 2+2 university center teacher education student at the institution where this study is located. To ascertain test-retest reliability of the WPE Status Survey, the Pearson correlation coefficient was used on the spring 2011 and fall 2011 survey administrations on each of the items included within the survey. To ensure that the survey was internally consistent, Cronbach's alpha was used on the items within the survey that are scaled. The Chronbach alpha was defined as:

$$\alpha = \frac{K}{K - 1} \left(1 - \frac{\sum_{i=1}^K \sigma_{Y_i}^2}{\sigma_X^2} \right)$$

The instrument was compared to the acceptable range for Cronbach's alpha which includes a benchmark statistic for acceptable internal validity at 0.70 with resulting alpha of greater than the benchmark indicating that the instrument has internal consistency and the instrument measures what it is supposed to measure. Pearson's correlation measures with a p value of $p < 0.01$ and $p < 0.05$ was performed for the test-retest analyses. Pearson's correlation coefficient can be calculated using the following formula:

$$r = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2} \sqrt{\sum_{i=1}^n (Y_i - \bar{Y})^2}}$$

The validity and test-retest measures were performed using PASW 18 statistical software. In addition to incorporating measures of reliability, the WPE Status Survey was submitted for review to the East Carolina University Center for Survey Research to establish content validity.

The measures used by this body were compared to this researcher's analyses to determine if the WPE Status Survey was acceptable for the purposes of the study.

Data Analysis

For the purposes of validating the WPE Status Survey instrument (see Appendix A), the spring 2011 and fall 2011 survey participants was used for reliability and test-retest analyses. A summary of the unduplicated participant demographics is included within Table 1. The spring 2011 survey respondents included 132 students of whom 58 had successfully graduated and 26 are currently employed as teachers. The return rate for the spring 2011 survey was 44%. The fall 2011 survey respondents included 197 students of whom 62 had successfully graduated and 38 are currently employed as teachers. The return rate for the fall 2011 survey was 57%. All subjects were combined for the survey validation to consist of 329 total respondents with 82 unduplicated respondents having successfully graduated and 40 unduplicated respondents having been successfully employed. Of these 329 respondents included in the sample for this study, 26 were male and 298 were females. The sample was predominately Caucasian with 88.8% of those included of this race. Six point four % of the sample was African American; 3.3% were Hispanic; 1.5 % were Native American; and 3% were listed as Other. This sample will be used to test the reliability and validity of the WPE Status Survey instrument.

For the analyses incorporated into the methodological model for the present study beyond the survey validation, all survey responses from the spring 2012 administration were included with the spring 2011 and fall 2011 information. The spring 2012 survey consisted of 133 responses representing 19 students who graduated and 16 students who are employed. The return rate on the spring 2012 survey was 52%.

Table 1

Overall Demographics of Study Sample

Demographic Characteristic	N	Percentage of Sample
<i>Gender</i>		
Male	17	6.51%
Female	244	93.49%
<i>Race</i>		
African American	16	6.13%
Caucasian	235	90.04%
Other	10	3.83%
<i>Age Range</i>		
20-29 years	82	31.42%
30-39 years	93	35.63%
40-49 years	59	22.61%
50-59 years	27	10.34%
<i>Home County Designation</i>		
Rural	198	75.86%
Urban	63	24.14%
<i>Work Status</i>		
Not Reported	3	1.15%
Work Full Time	144	55.17%
Work Part Time	56	21.46%
Do Not Work	58	22.22%
<i>Public School Work Status</i>		
Not A Public School Employee	120	45.98%
Teacher Assistant (TA)	79	30.27%
Bus Driver	4	1.53%
Office/Clerical Worker	6	2.30%
Substitute Teacher	24	9.20%
Other Public School Worker	1	0.38%
TA & Bus Driver	27	10.34%

Table 1 (continued)

<i>Connection to Military</i>		
Not Connected	233	89.27%
Retired Military	7	2.68%
Spouse of Active Duty	8	3.07%
Spouse of retired military	3	1.15%
Dependent of military	5	1.92%
Other connection	5	1.92%
<i>Graduated</i>		
<i>Currently Enrolled</i>	111	42.53%
Graduated	133	50.96%
Withdrew	17	6.51%
<i>Employed after Graduation</i>		
Currently Enrolled	111	42.53%
No	43	16.48%
Withdrew	17	6.51%
Yes	90	34.48%
<i>Major</i>		
Elementary Education	176	67.43%
Middle Grades Education	35	13.41%
Special Education	50	19.16%
<i>Praxis I</i>		
	N	Mean(SD)
Reading	238	179.02(3.58)
Writing	236	175.41(3.14)
Math	241	177.44(4.97)
<i>Entrance Grade Point Average</i>	261	3.29(.46)

All three administrations of the survey were combined to denote an unduplicated count of participants. Of the combined administrations, 261 of total, unduplicated participants existed with 17 being males and 244 being females. The self-reported races of the combined group are 90 % Caucasian; 10 % non-Caucasian with African Americans comprising the majority of the non-Caucasian group. Table 1 illustrates the overall demographic characteristics of the study sample. The unduplicated count of participants who graduated was 133 with 90 of those participants having obtained employment within the field.

Of the combined administrations, 129 out of the 261 participants reside in counties within North Carolina that have less than 120,000 residents representing 49% of the total sample. Table 2 shows the breakdown of participants in relation to the population of their county of residence.

To capture sample population with respect to their home counties of residence, a rural versus urban lens has been utilized. The United States Department of Agriculture (USDA) defines rural based on the definition included within the 2002 Farm Bill which defines rural as areas outside of places of 50,000 or more people and their adjacent urbanized areas (United States Department of Agriculture Economic Research Service, 2013). The designation under the 2002 Farm Bill determines a county's eligibility for USDA Business and Industry loans. While other definitions of rural versus urban exist, this study adopted the definition utilized by the USDA. Table 3 indicates the breakdown of participants according this definition of rural versus urban.

Closely aligned with the USDA Business and Industry Loan Program Definition that is related to the economic prosperity of counties in North Carolina, the North Carolina Department of Commerce annually ranks the 100 North Carolina counties into three economic tiers based on their economic well-being (North Carolina Rural Economic Development Center, 2013).

Table 2

Participant Demographics – County of Residence Population

County Population	N	Percentage
Less than 10,000	1	0.38%
10,000-30,000	27	10.35%
31,000-50,000	20	7.66%
51,000-70,000	41	15.71%
71,000-90,000	9	3.45%
91,000-120,000	31	11.88%
121,000-150,000	33	12.64%
151,000-180,000	63	24.14%
Greater than 180,000	36	13.79%

Table 3

Participant Demographics – USDA Business and Industry Loan Program Definition

USDA Business & Industry Loan Program Definition	N	Percentage
Rural	198	75.86%
Urban	63	24.14%

Forty counties are designated as Tier 1 indicating that they are the most economically distressed (North Carolina Rural Economic Development Center, 2013). The Tier 2 designation is given to the next 40 counties as moderately distressed economically and Tier 3 counties represent the 20 least distressed (North Carolina Rural Economic Development Center, 2013). Within the sample of this study, over 66% of the participants reside in Tier 1 and Tier 2 counties which indicate some issues related to economic development within those counties as indicated in Table 4.

Within the literature review of this study, the issue of recruitment and retention of teachers in rural areas was addressed. If one adopts the USDA Business and Industry and North Carolina Department of Commerce definitions of rural, the sample included within the present study represents about two-thirds of the participants. Associated with the concept of being rural is access to higher education. The WPE 2+2 university center model was developed to provide students access to four-year teaching degrees close to the home by utilizing community college campuses which are closer to students in geographically isolated areas. To gain a context of proximity of the participants within the present study to the university campus, Table 5 illustrates the distance to the university campus from the counties of residence of the study participants. Within the table, over 84% of the study participants are over an hour in distance from the university campus. For most participants, the majority of whom are employed either full-time or part-time, driving an hour or more to take courses at the four-year institution would present a barrier in access were it not for the opportunity to be enrolled in the 2+2 university center program.

Table 4

Participant Demographics – North Carolina Economic Tier Designation

North Carolina Tier Designation	N	Percentage
Tier 1	44	16.86%
Tier 2	132	50.58%
Tier 3	85	32.57%

Table 5

Participant Demographics – Distance from University Campus

Distance to Campus One Way	N	Percentage
< 1 hour	43	16.47%
1- 2 hours	154	59.00%
2 - 3 hours	27	10.35%
3 - 4 hours	13	4.98%
4 - 5 hours	14	5.36%
> 5 hours	10	3.83%

Demographic information reported by all survey participants was analyzed after the instrument was deemed valid and reliable. Information about students' majors, gender, race, age range, work status, military connections, rural designation of home county of residence, and forms of educational funding were examined through secondary data analysis. The students within WPE transfer from community colleges and are required to have a 2.5 GPA and have taken the Praxis I exam in order to be admitted into the degree completion program. Entrance GPA and Praxis I scores for the survey participants was obtained from the Office of Teacher Education which houses a database of WPE student information. For the bulk of the analyses this investigation, the combined data set of the spring 2011, fall 2011, and spring 2012 WPE Status Survey respondents with the additional data about student demographics and student outcomes was included in the present study's secondary data analysis.

Student outcome measures to include final GPA, Praxis II scores, graduation and employment status were also obtained from the Office of Teacher Education which tracks this data for program evaluation purposes. Students in WPE follow a prescribed sequence of courses such that students within each major take the same courses in the same sequence. In addition, WPE students who major in elementary education and special education have reading licensure courses built into their majors. Student performance data for professional core course to include senior I and II courses and reading concentration courses as well as composite student performance on the senior portfolio were requested from the College of Education's Office of Assessment and Accreditation. Institutional Review Board approval was granted prior to gathering any information used within the study. A secondary data analysis approach was utilized to determine if any associative relationships between the dependent and independent variables. The JMP software, a SAS ® product, was used to perform the analyses about the 261

university center teacher education students within the methodological model presented in Figure 1. The researcher selected to utilize the JMP Pro 9 software for the analysis of the individual research questions so that the nuances of a relatively small data set could be gleaned.

The dependent variables of student outcomes to include graduation, employment after graduation, performance in professional core courses, performance in reading licensure courses, performance on the Praxis II exam, final GPA and performance on the edTPA portfolio served as the primary funnel through which the independent variables of student demographics and student attitudes were examined. The seven dependent variables of student outcome measures were examined to determine if there are any associative relationships between these variables and the student demographic characteristics. Analyses of the seven dependent variables of student outcomes were performed on the eleven independent variables related to student demographic information. Any associative relationships between student outcomes and student major, gender, race, age range, work status, work within the public schools, connection to the military, rural designation, sources of funding, entrance GPA and entrance Praxis I scores was determined through the utilization of descriptive statistics, chi square, and one way ANOVA analyses.

In addition, the seven dependent variables of student performance outcome measures were examined to determine if there are any associative relationships between student attitudes about academic and social integration as reflected by their responses to questions on the WPE Status Survey. The four independent variables related to student attitudes about academic integration included analyses of the four questions on the instrument related to attitudes about instruction received; two questions related to attitudes about advising received; five questions related to attitudes about additional support received; and three questions related to attitudes about the structure of the model compared to the dependent variables of student outcome

measures. The three independent variables about student attitudes about social integration included analyses of the four questions related to attitudes about communication/interaction with instructors; two questions related to attitudes about communication/interaction with the advisor; and the two questions related to student attitudes about cohort/classmate support. Descriptive analyses, ANOVA, and chi-square statistical tests were incorporated to determine if any relationships were present between the dependent variables of student outcomes and the independent variables related to student attitudes about academic and social integration.

To further capture the unique population of the 2+2 university center teacher education student included within the present study, statistical analyses between student attitudes and student characteristics were performed. The four independent variables of student attitudes related to academic integration were compared to the eleven demographic student characteristics included within the sample to be studied. The three independent variables of student attitudes related to social integration were compared to the eleven demographic student characteristics included within the sample studied. A variety of exploratory statistical analyses were performed to determine additional information about this population.

Summary

The purpose of the present study was to examine the 2+2 university center teacher education model to determine if relationships existed between the unique characteristics of the model participants, their perceptions of the model, and performance outcomes. Five research questions were investigated to enhance the literature about the 2+2 university center model. A methodological model as outlined in Figure 1 served as the guide for the secondary statistical analyses included within the investigation.

CHAPTER 4: RESULTS

Introduction

The purpose of this study was to determine whether there are any significant relationships between student demographics and attitudes about the 2+2 model and performance outcome measures to include performance within the model and subsequent graduation and employment in the field. Through analyzing demographic, attitudinal, and performance measures, an understanding of those factors that promote persistence within the program was investigated. A total of 5 grouped null hypotheses were investigated. Three grouped null hypotheses guided my analysis of student characteristics and attitudes as they relate to performance outcome measures. It was anticipated that significant findings would not be discovered due to the homogeneity of the majority of the performance outcomes especially in relation to student grades and their resulting grade point averages. The first grouped null hypothesis stated that there is no significant relationship between student demographic characteristics and student outcome measures of 2+2 university center teacher education candidates. I found there were some statistically significant variances in comparisons of grades in some courses by gender and race. Females ($N=244$) outperformed males ($N=17$) in EDUC 4400 and four Senior II courses. While these differences resulted, the small counts of student who retook courses may have impacted the significance of the chi square analyses and as such the results should be considered with caution. In addition, statistically significant differences were found in the comparison of race and Praxis II core test scores with Caucasians outperforming African Americans. However, the significance was slight in this comparison and is tempered by the small counts of African Americans in the sample ($N=16$). Also within the tests performed on the first grouped null hypothesis, age compared to overall edTPA scores yielded statistically significant differences with students in

the 50-59 age range outperforming those within the younger age ranges. There were some variances found within tests of the first grouped null hypothesis but due to the large volume of tests performed the findings may be a result of false positives. As such, the first grouped null hypothesis may not be rejected.

The second grouped null hypothesis noted that there is no significant relationship between student attitudes about academic integration and student outcome measures of 2+2 university center teacher education candidates. I found there were some slightly significant differences in comparisons made about instruction received and the performance outcomes of graduated and employed. Those that withdrew rated instruction received lower than those who were successful toward graduation. In addition, comparisons made between attitudes about advising, program structure, and other support received to the outcomes of grades in professional core, Senior and II courses yielded a few significant findings. However, the majority of the students in the sample received grades of A in their courses and small counts of those who made below A impacted the variance for the tests completed. Convenience of delivery in comparison to final GPA also yielded statistically significant results with those who had a lower mean GPA did not feel convenience was an influential factor for persistence. While statistically significant findings occurred, it should be noted that a large volume of tests were completed such that significant findings may be indicative of false positive results. The second grouped null hypothesis was rejected for this reason.

The third grouped null hypothesis stated that there is no significant relationship between student attitudes about social integration and student outcome measures of 2+2 university center teacher education candidates. I found there were statistically significant differences between the outcome variable of graduated and attitudes about assistance from an advisor and interaction

with cohort members. Those that withdrew had significantly lower ratings of advisor assistance and cohort support compared to those that graduated. While these few results were yielded in the analyses of variables about social integration and performance outcomes, they are not robust enough to reject the grouped null hypothesis.

In order to delve deeper into the factors that promote persistence within the 2+2 university center teacher education model, exploratory analyses were conducted to ascertain if there were any relationships between the characteristics of the study sample and their attitudes about the program. The fourth grouped null hypothesis stated that there is no significant relationship between student demographic characteristics and student attitudes about academic integration within the 2+2 university center teacher education model. I found statistically significant variances in the comparisons of age to overall instruction and advising received. Further, statistically significant variance was found in comparisons of major and public school work status to overall instruction. Middle grades majors rated their instruction lower than other majors, and those employed in public schools rated their overall instruction higher than those not employed in public schools. The academic integration attitudes of instruction received generated variance across several student characteristics. In addition, age yielded variances across comparisons of instruction and advising. Due to the patterns that emerged, the fourth grouped null hypothesis may be rejected.

In addition, the final grouped null hypothesis noted that there is no significant relationship between student demographic characteristics and student attitudes about social integration within the 2+2 university center teacher education model. I found statistically significant variance between student demographic characteristics and attitudes about interactions with instructors, advisors and cohort members. 100% of the males in the study indicated that

advisor assistance was influential to their persistence. African Americans rated support from cohort members significantly higher as a persistence factor in comparison to other subgroups. Faculty support as an influential factor for persistence varied significantly across age and public school work status with those in the older age ranges and those who work in public schools rating faculty support higher than other subgroups. Due to patterns of significance across several student characteristics and attitudinal variables, the final grouped null hypothesis was rejected. The subsequent paragraphs detail the results of the multiple analyses performed on the student characteristic and attitudinal variables.

Demographic data and attitudinal data were obtained through the secondary analysis of the WPE Status Survey. Validation of the survey was incorporated into the study prior to conducting the analyses of the grouped null hypotheses. The results of the validation analyses are also included within this chapter. Performance outcome data was obtained from the Office of Teacher Education and the Office of Assessment and Accreditation. The analyses addressing the group hypotheses were conducted using the JMP Pro 9 quantitative software package, a SAS® product.

Survey Validation

Test and retest measures upon the WPE Status Survey were conducted using the Pearson correlation coefficient on the spring 2011 and fall 2011 survey administrations on each of the 40 items included within the survey. Individuals who took the survey for both administrations were included in the analysis with the goal of determining if the survey produced reliable results from one administration to the next for the same individuals. The test-retest correlations resulted in all but 2 statistically significant associations. The range of Pearson's correlation coefficients was $r = 0.27$ to 0.98 with $p < 0.01$ on 37 items and $p < 0.05$ on 2 items. As anticipated, the most robust

correlation occurred with the demographic information responses related to gender, work status, connection to the military and public schools. The item that resulted in an $r = 0.15$ was a response that permitted the participants to indicate “other” reasons for persistence within the program. This item is more likely to have variance in response from one administration to another since participants may or may not share other information or take the time to type out a response. In the future, verbal data from the “other” portion of the survey will be analyzed using NVivo qualitative software.

The test-retest on the item related to face to face instruction resulted in a correlation of $r = 0.27$ with $p < 0.05$. While the test-retest yielded a significant association, the result may be explained by the fact that fewer face to face sessions occur within the distance education program. In addition, the item related to participants feeling comfortable working with diverse learners resulted in a test-retest correlation of $r = 0.27$ with $p < 0.05$. Overall, from the test-retest analysis, the survey appears to be reliable from one administration to the next given that all but one of the test-retest analyses resulted in significant association.

In addition to test-retest analyses to determine the reliability of the WPE Status Survey, the internal validity of the survey was investigated. The WPE Status Survey included 3 major components with questions related to those categories being incorporated. The categories of instruction, advising, and technical support were analyzed using Cronbach’s alpha to determine if these components measure what they were intended to measure by looking at the scoring patterns of the participants’ responses. The benchmark statistic for acceptable, internal validity for Cronbach’s alpha is 0.70. Results of alphas greater than the benchmark indicate that the items within the survey are appropriate measures of what the survey proposes to measure. In Table 6, the alphas for each portion of the survey and the overall survey are indicated.

Table 6

Cronbach Alpha Statistics for the WPE Status Survey

Survey Category	Cronbach alpha
Instruction	0.85
Advising	0.82
Technical Support	0.76
Overall Survey	0.89

With a Cronbach alpha of 0.70, the WPE Status Survey fell into the acceptable range for internal validity. The category of technical support incorporated the lowest alpha score ($\alpha = 0.76$) which aligned with the test-retest correlations for this portion of the survey with the statistics below lower than other portions of the survey. The categories of instruction and advising indicate strong internal validity with $\alpha = 0.85$ and $\alpha = 0.82$ respectively for these categories. The highest internal validity statistic was for the overall survey ($\alpha = 0.89$) indicating that the survey possesses acceptable internal validity.

In sum, the WPE Status Survey is a valid and reliable instrument to measure the attitudes of students regarding their instruction, advising, technical support and reasons for persistence. The review of the survey by the East Carolina University Center for Survey Research further provided face validity to the instrument. While the survey is an appropriate measure of the perceptions of students within the 2+2 university center model investigated within this study, use of the survey outside of the current sample is limited. However, the WPE Status Survey was an acceptable means of data collection for the study herein.

Overall Survey Results

Table 1 in chapter 3 outlines the overall demographics of the study sample which includes 261 students. This descriptive data was gathered to ascertain the general student characteristics of the sample. In addition, Table 7 includes the percentages of the combined responses of the spring 2011, fall 2011, and spring 2012 administrations of the WPE status survey.

Responses from individuals who took more than one administration of the survey were combined to create a composite response for each item on the survey. If responses differed across survey administrations, the most recent response was used for the composite. The

Table 7

Overall Survey Responses- Percentages

<i>Survey Question - Which of following is influential in your continued participation in WPE?</i>	<i>No</i>	<i>Yes</i>
Support from classmates/cohort members	31.80%	68.20%
Convenience of course delivery	6.13%	93.87%
Faculty support	47.89%	52.11%
Financial aid received or plan to receive	44.83%	55.17%
Assistance from WPE advisor	19.16%	80.84%
Faculty to teach my classes	79.31%	20.69%
Other	95.79%	4.21%

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<i>Survey Questions: Instruction</i>	<i>Not Applicable</i>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
The delivery mode is suited for my learning style.	1.15%	1.15%	2.68%	46.36%	48.66%
The instructors respond to my inquiries in a timely manner.	1.92%	1.53%	6.90%	47.89%	41.76%
The instruction I receive is effective.	2.68%	0.00%	5.75%	50.57%	41.00%
The face to face sessions allow me an opportunity to strengthen my connection to my cohort and the program area faculty.	5.36%	2.30%	9.20%	50.19%	32.95%
As a novice educator, I feel I am gaining the necessary skills to make me an effective teacher.	1.92%	0.38%	0.77%	43.68%	53.26%
I feel competent in teaching children with diverse learning needs.	1.53%	0.77%	5.36%	50.57%	41.76%

Table 7 (continued)

I feel competent in teaching children who have English as a Second Language.	1.53%	2.30%	24.14%	53.26%	18.77%	
The hubsite coordinator responds to my questions in a timely manner.	2.68%	1.15%	1.92%	44.83%	49.43%	
I would recommend this opportunity for other community college transfer students interested in a teacher education degree.	1.53%	0.38%	3.83%	29.12%	65.13%	
The amount of advising I receive is adequate.	2.30%	1.15%	4.21%	34.87%	57.47%	
Survey Questions: Support/Other						
Hardware and software support is readily available.	1.53%	0.00%	4.21%	56.70%	37.55%	
I use the WPE website often and find it to be useful.	2.68%	0.77%	19.92%	59.39%	17.24%	
The instructional technology tools are user friendly.	1.92%	0.00%	5.75%	59.39%	32.95%	
<i>Survey Questions: Overall</i>						
<i>(Poor=1;Outstanding=5)</i>						
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Mean(SD)</i>
Overall Advising Rating	0.39%	1.95%	6.61%	24.12%	66.93%	4.55(0.74)
Overall Instruction Rating	0.00%	0.78%	10.16%	47.27%	41.80%	4.30(0.68)

combined responses were used for the analyses related to student attitudes about academic and social integration.

Overall, convenience of course delivery was the most influential factor for continued participation in the program with 93.87% of participants indicating this factor as important. Assistance from an advisor was also influential to the majority of participants with 80.84% indicating this as an influential factor for continued participation. In addition, 68.20% of students perceived that support from classmates/ cohort members as influential for continued persistence. While the factors of convenience, advisor assistance, and cohort support received the highest percentages for being influential in continued participation, faculty support, financial aid, and faculty who teach classes yielded lower percentages. Support from faculty and financial aid received or planned yielded a little over 50% of students' responses. Support from faculty members was 16.09 % points lower than support from cohort members and 28.73% points lower than support from an advisor. Only 20.69% of students indicated that the faculty who teach their classes served as an influential factor for persistence. In comparison to convenience as an influential factor, this factor represented a 73.18% differential between the two.

With regards to responses about instruction as outlined in Table 7, students were more likely to strongly agree that they were receiving instruction that was delivered appropriately and was effective. The majority of students indicated that they were gaining skills to help them be effective teachers with 96.94% entering responses of either strongly agreed or agreed. On the other hand, students indicated that they are less confident in teaching ESL students with only 18.77% entering a response of strongly agree.

The overall results for the questions about advising indicated that 92.34% of students strongly agreed or agreed that the amount of advising was adequate. The majority of the students

indicated that the advisor responded in a timely manner. In addition, 94.25% of students indicated that they would recommend the opportunity to other students.

For other support questions within the survey, the percentages of agree and strongly agree were less than the percentages related instruction and advising. Only 17.24% of students indicated with strongly agree that the WPE website was useful. This percentage was the lowest of all other responses indicated in the survey for strongly agree. While the majority of students agree that hardware and software support is available and technology tools are user friendly, the responses of agree and strongly agree were much less robust than other items in the survey in terms of percentage points.

Students tended to rate their overall advising experience as outstanding with over 91% of students entering a rating of 4 or 5. Overall instruction yielded approximately 89% of 4 and 5 ratings by students. However, the ratings of overall support were appreciatively lower with no students indicating this area as outstanding and only 42.28% giving this area a rating of 4.

Student Performance Outcome Measures

In addition to general descriptive data about the WPE Status Survey, student performance outcomes measures were analyzed for overall distribution. As a reminder, outcome measures included in this study were graduated, employed after graduation, performance in professional core and reading courses, performance on Praxis II tests, performance on the edTPA, and final GPA. The entry grade point average of students yielded an average of 3.29 with a median of 3.36 for all students in the student. The graduated grade point average of students yielded an average of 3.71 with a median of 3.82 and the student performance outcome measure of edTPA scores yielded an average score of 3.38 out of 5 with a 3.17 median. Praxis II scores for graduated students yielded passing scores which vary by major for all but one student.

Student performance outcome measures related to grades in the professional core courses for graduated students were analyzed using general frequency distributions which are outlined in Table 8. The column that indicates “retakes” is provided to accurately reflect course performance of students within the sample. A few students took particular courses required for their degree, were unsuccessful and subsequently retook the courses. The column within the table with the label of “retakes” in the heading reflects the counts of students who retook courses.

For those students who are currently enrolled, Table 9 indicates the grades received in the professional core courses. As students within the sample are at various points within the prescribed course sequence of their program, grades noted are indicative of those students have completed thus far. As such, there are varied totals for courses.

In addition to an examination of descriptive information related to grades in professional core courses, performance in reading courses was also examined. Elementary and special education majors have 24 hours of reading courses incorporated into their programs. Middle grades students are required to take READ 5317 as a part of their degree requirement. Table 10 shows the grades received by graduates in the sample. As with the previous tables, counts by course of repeated courses are indicated to provide an accurate representation of student performance.

Table 11 provides the performance in reading courses for students who are currently enrolled. Due to the fact that currently enrolled students are at various points of their program sequence, the counts are varied.

Table 8

Grades Received in Professional Core Courses for Graduated Students

Graduated	Grades Received							
Course	A	A-	B	B-	B+	C	D	Retakes
All Majors								
Professional Core Course-2123	127	0	6	0	0	0	0	0
Professional Core Course -EDUC 4400	88	0	38	0	0	7	0	0
Elementary								
Senior I Course- ELEM 4525	77	0	9	0	0	3	0	0
Senior I Course- SPED 4010	74	0	12	0	0	3	0	0
Senior II Course - ELEM 4524	81	4	2	0	1	1	0	0
Senior II Course - ELEM 4525	81	4	2	0	1	1	0	0
Senior II Course- ELEM 4526	81	5	1	0	2	0	0	0
Special Education								
Senior I Course -SPED 4100	22	0	3	0	0	0	0	0
Senior I Course -SPED 4300	19	0	6	0	0	0	0	0
Senior II Course -SPED 4320	81	4	2	0	1	1	0	0
Senior II Course- SPED 4324	81	4	2	0	1	1	0	0
Middle Grades								
Senior I Course -MIDG 4010	10	0	7	0	0	0	0	1
Senior II Course- MIDG 4324	13	0	1	0	0	1	1	1
Senior II Course -MIDG 4325	12	0	4	0	0	0	1	0

Table 9

Grades Received in Professional Core Courses for Enrolled Students

Enrolled	Grades Received					
Course	A	A-	B	B-	B+	C
All Majors						
Professional Core Course-2123	109	0	2	0	0	0
Professional Core Course -EDUC 4400	34	0	17	0	0	4
Elementary						
Senior I Course- ELEM 4525	1	0	0	0	0	0
Senior I Course- SPED 4010	1	0	0	0	0	0
Senior II Course - ELEM 4524	1	0	0	0	0	0
Senior II Course - ELEM 4525	1	0	0	0	0	0
Senior II Course- ELEM 4526	1	0	0	0	0	0
Special Education						
Senior I Course -SPED 4100	7	0	1	0	0	0
Senior I Course -SPED 4300	6	0	0	2	0	0
Senior II Course -SPED 4320	1	0	0	0	0	0
Senior II Course- SPED 4324	1	0	0	0	0	0
Middle Grades						
Senior I Course -MIDG 4010	2	0	0	3	2	0
Senior II Course- MIDG 4324	1	0	0	0	0	0
Senior II Course -MIDG 4325	1	0	0	0	0	0

Table 10

Grades Received in Reading Courses for Graduated Students

Graduated		Grades Received						
Course	A	A-	B	C	C+	D	F	Retakes
READ 3302	89	0	21	4	0	0	0	1
READ 3205	96	0	15	3	0	0	0	1
READ 3206	99	0	14	2	0	0	0	0
READ 4534	72	0	13	3	0	1	0	0
READ 5316	68	0	45	13	0	1	0	3
READ 5317	94	0	30	9	0	0	0	0

Table 11

Grades Received in Reading Courses for Enrolled Students

Enrolled		Grades Received						
Course	A	A-	B	C	C+	D	F	Retakes
READ 3302	13	0	2	2	0	0	0	0
READ 3205	39	2	4	0	1	1	0	1
READ 3206	39	2	4	0	1	1	0	1
READ 4534	5	0	4	0	0	0	0	0
READ 5316	19	0	14	3	0	0	0	4
READ 5317	3	0	3	2	0	0	0	0

Analyses of Student Characteristics and Performance Outcomes

To investigate the first group hypothesis that stated that there is no significant difference between student demographic characteristics and student performance outcomes, chi square and ANOVA analyses were performed. The demographic characteristics of major, gender, race, age, work status, work status within a public school, connection to military, rural status, funding source, and entrance grade point average were tested against each student performance outcome. The student performance outcomes included graduation, employment, professional core grades, overall performance score on the edTPA final portfolio, final grade point average, and Praxis II test scores.

Major

For major, of the 261 participants in the study, 67.43% ($N=176$) were elementary majors, 13.41% ($N=35$) were middle grades majors, and 19.16% ($N=50$) were special education majors. Chi square analyses were performed to compare the student demographic characteristic of major with the outcome measures of graduation and employment within the field. As hypothesized, no significant relationships were found between student major and graduation ($\chi^2 [4, N=261] = 0.79, p = 0.94$) or student major and employment ($\chi^2 [6, N=261] = 7.10, p = 0.31$).

Next, the variable of major was compared to grades within the professional core courses required for the majors of elementary, special and middle grades education. There were no statistically significant differences found between student major and grades in ELEM 2123, SPED 2123, and MIDG 2123 ($\chi^2 [2, N=261] = 0.21, p = 0.89$) and grades in EDUC 4400 ($\chi^2 [8, N=261] = 15.01, p = 0.06$)

Grades in Senior I and II courses were compared to major were tested using chi squares. No significant relationships were found between major and grades in the Senior I and II. Results

are contained in Appendix B, Tables 1 and 2. Each of the reading courses was also tested against the variable of major. The six READ courses were tested using the chi square statistical test against the variable of major and the results yielded no significant relationships within any of the courses. Results of these analyses are indicated in Appendix B, Table 3.

ANOVA was used to compare the variable of major to the overall edTPA final portfolio score. The means and standard deviation for each major within this comparison were Elementary ($M= 3.38, SD= 0.07$), Middle Grades ($M= 3.50, SD=0.15$) and Special Education ($M= 3.24, SD=0.21$). No statistically significant differences were found between edTPA final portfolio scores and majors ($F [2, 70] = 0.55, p = 0.58$). Appendix B, Table 4 contains the results of the ANOVA for major compared to edTPA scores.

An additional ANOVA analysis was utilized to compare major to final grade point average. The means and standard deviation for each major within this comparison were Elementary ($M= 3.75, SD=0.03$), Middle Grades ($M=3.59, SD= 0.07$), and Special Education ($M= 3.69, SD = 0.06$). No statistically significant differences were found between major and final grade point average ($F [2, 124] = 2.10, p = 0.13$). Appendix B, Table 4 indicates the results of the ANOVA for this variable.

Praxis II scores were also compared to the characteristic of major using ANOVA. Elementary and special education students were included within these analyses due to the fact that Praxis II is not required for middle grades students. Within the comparison of elementary ($M=178.61, SD=2.27$) to special education ($M=167.19, SD=2.13$) on the Praxis II core test, the ANOVA yielded $F (1, 47) = 13.44, p = 0.0006$ which is statistically significant. The Praxis II content test yielded $F (1, 46) = 63.96, p = <0.0001$ across majors within the ANOVA. The results are summarized in Appendix B, Table 4. While the comparison of major to Praxis II

scores indicate statistically significant p values, it should be noted that each major takes a different test related to their major and as such any significant differences could be a result of variances within the content of each test. The hypothesis may not be rejected as it is unknown whether the content included within the different tests across majors influences the comparative results.

Gender

For the 261 students in the study, the majority of the students are female with 93.49% ($N=244$) and 6.51% ($N=17$) were male. Chi square tests were completed comparing gender to the performance outcome measure of graduation and employment. As hypothesized, no significant relationships were found between student major and graduated ($\chi^2 [2, N=261] = 1.12, p = 0.55$) and employed ($\chi^2 [2, N=261] = 1.50, p = 0.68$).

The variable of gender was compared to grades in the professional core course of EDUC 4400 ($\chi^2 [4, N=261] = 35.44, p = <0.0001$). A significant finding occurred within the chi square although the robustness of the significance is tempered due to small counts within the male subset for the gender variable and as such the results should be viewed with caution.

Gender was also compared to the grades in the professional core courses in Senior I, II and reading courses using the chi square analyses. Appendix B, Tables 5, 6 and 7 contain the results. The courses of ELEM 4524, 4525, SPED 4320, and 4324 resulted in the chi squares as noted in Appendix B, Table 6 with significant values indicated in four courses. Upon further reflection, it was thought that perhaps the small counts of grades that were retaken impacted the variance and as such, the significance within the chi square should be questioned. Future analysis could further disentangle the influence of retakes on the relationships between grades and

gender. No significant relationships were found between gender and grades in Senior I and reading courses.

ANOVA was used to compare gender to the overall edTPA score. The means and standard deviation for each gender were males ($M= 3.16, SD=0.22$) and females ($M= 3.40, SD=0.27$). No statistically significant differences were found between edTPA scores and gender ($F [1,71]=1.09, p = 0.30$). ANOVA was used to compare gender to final GPA results. The means and standard deviations for each gender were with males ($M=3.78, SD=0.12$) and females ($M=3.71, SD =0.03$). No statistically significant relationships were found between final GPA and gender ($F [1,125]=0.31, p=0.58$). ANOVA tests were implemented comparing gender to Praxis II tests. No significant findings were found in these analyses. The results are reflected in Appendix B, Table 8.

Race

For the 262 students within the study, 6.13% ($N=16$) identified themselves as African American, 90.04% ($N=235$) identified themselves as Caucasian, and 3.83% ($N=10$) identified themselves as Other which included Asian/Asian American, Hispanic, or Native American. Subgroups beyond Caucasian and African American contained N values too small to consider individually and yield robust analyses. Chi square tests were completed comparing race to the performance outcome measures of graduation and employment. The variance in graduation by race was found statistically significant, but only slightly so ($\chi^2 [4, N=261] = 9.90, p = 0.04$). However, the small counts within the comparison cause the chi square results to be viewed with caution. No significant relationship between race to employment was found ($\chi^2 [4, N=261] = 10.40, p=0.11$).

ANOVA analyses were completed comparing race to overall edTPA scores. Results are contained in Appendix B, Table 9. The mean overall edTPA scores for African Americans was ($M=3.11$, $SD=0.27$), Caucasians ($M=3.42$, $SD=0.66$) and other races ($M=2.83$, $SD=0.38$). No significant differences resulted in this comparison.

ANOVA was utilized to test race to final GPA with results contained in Appendix B, Table 9. The mean final GPA for African Americans was ($M=3.50$, $SD=0.10$), for Caucasians ($M=3.73$, $SD=0.03$) and for other ($M=3.58$, $SD=0.17$). No statistically significant relationship were found between final GPA and race ($F [2,124] =2.85$, $p = 0.06$).

Praxis II test results were compared using ANOVA. Results are contained in Appendix B. The mean and standard deviation for Praxis II test scores for African Americans ($M=162.17$, $SD=4.77$), for Caucasians ($M=174.00$, $SD=1.78$), and for other ($M=174.00$, $SD=1.78$). For the Praxis II core test, a slightly significant value was found indicating variance between the mean scores ($F [1,47] =5.40$, $p = 0.03$). The small counts within the African American subgroup temper the significance of this test. Additional ANOVA on Praxis II content tests yield no statistically significant findings as indicated in Appendix B, Table 9.

Age

Students indicated in the WPE Status Survey their current age range. These ranges were grouped into 10 year increments. For the 261 students within the study, 31.42% were in the age range of 20-29 years, 35.63% were age 30-39, 22.61% were age 40-49, and 10.43% were age 50-59. The majority of students within the study are of non-traditional age with 68.67% of the total study participants falling outside of the range for traditionally aged students.

Using chi square tests, a slightly statistically significant variance in graduation was found by age range ($\chi^2 [6, N=261] = 12.52, p=0.05$). Table 12 outlines additional results of this analysis.

As can be inferred from the table of descriptive statistics above in Table 12, differences existed between the oldest and youngest age brackets. While students in the youngest age bracket of 20-29 were more likely to be currently enrolled at 52.44% of the total sample, students in the oldest age bracket at 77.78% of the total population were most likely to graduate. Overall, students within the older age brackets of 30-39, 40-49, and 50-59 are more likely to graduate compared to those in the youngest bracket. However, those in the age range of 30-39 had a higher percentage of withdrawal than all other subgroups.

Chi square analyses were used to compare age range to employment. No statistically significant differences were found between employment and age range ($\chi^2 [6, N=261] = 13.98, p=0.12$).

Chi square analyses were used to compare grades in professional core courses of 2123 and EDUC 4400 to each age range. No statistically significant relationships were found between age and grades for 2123 course ($\chi^2 [3, N=261] = 2.14, p=0.53$) and for EDUC 4400 ($\chi^2 [12, N=261] = 17.36, p=0.14$). Chi square analyses were used to compare grades Senior I, II courses, and reading courses to age range. No statistically significant findings results in these comparisons to age. Results of these analyses are indicated in Appendix B, Tables 10, 11, 12.

Overall edTPA scores were compared to age to with the results contained in Appendix B, Table 13. Students in the 20-29 age range performed at a mean edTPA score of ($M=3.33, SD= 0.10$). Students in the 30-39 age range performed at a mean edTPA score of ($M=3.30, SD =0.09$). Students in the 40-49 age range performed at a mean edTPA score of ($M=3.27,$

Table 12

Graduated by Age Range

<i>Age Range</i>	<i>Currently Enrolled</i>	<i>N</i>	<i>Graduated</i>	<i>N</i>	<i>Withdrew</i>	<i>N</i>	<i>Total Count</i>
20-29	52.44%	43	41.46%	34	6.10%	5	82
30-39	40.86%	38	51.61%	48	7.53%	7	93
40-49	44.07%	26	50.85%	30	5.08%	3	59
50-59	14.81%	4	77.78%	21	7.41%	2	27

$SD=0.11$). Students in the 50-59 age range performed at a mean edTPA score of ($M=4.22$, $SD=0.18$). The mean of the 50-59 for overall edTPA scores was significant higher than all other subgroups.

ANOVA was used to compare final GPA by age with the results contained in Appendix B, Table 13. No statistically significant differences were found between final GPA and age ($F [3,123] = 0.77$, $p = 0.51$). Additionally, an ANOVA of Praxis II tests by age yielded no significant findings. Results for comparisons of final GPA and Praxis II tests by age are in Appendix B, Table 13.

Work Status

Of the 262 students in the study, 55.17% ($N=144$) work full time, 21.46% ($N= 56$) work part time, 22.22% ($N=58$) do not work, and 1.15% ($N=3$) did not report a work status. Over 76% of the students in the study work in some capacity. Chi square analyses were performed to compare work status to graduation and employment within the field. As hypothesized, no statistically significant relationship were found between work status and graduation ($\chi^2 [6, N=261] = 5.15$, $p=0.52$) or between work status and employment ($\chi^2 [6, N=261] = 8.07$, $p=0.53$).

Chi square analyses were used to compare work status to grades in the professional core courses of 2123 and EDUC 4400. No significant relationships were found between work status and grades in 2123 ($\chi^2 [3, N=261] = 0.40$, $p=0.94$) or in EDUC 4400 ($\chi^2 [12, N=261] = 9.14$, $p=0.69$). Chi square analyses were used to compare work status to Senior I and II courses, and reading courses were compared to work status using chi square analyses. No significant relationships between grades in Senior I, II, and reading courses were found. Results are contained in Appendix B, Tables 14, 15, 16.

ANOVA tests were performed comparing work status to overall edTPA scores and final GPA. No statistically significant relationships were found between overall edTPA and work status ($F [3, 69] = 0.97, p = 0.41$). Results are outlined in Appendix B, Table 17. There were no differences in Praxis II core tests compared to work status ($F [2, 46] = 0.54, p = 0.58$). Results are indicated in Appendix B, Table 17. There was, however, a statistically significant difference in Praxis II content scores by work status ($F [2, 45] = 3.44, p = 0.04$). The mean of students working part time and those not working indicate variance between those means. The mean Praxis II content scores of those students working full time were ($M=162.78, SD=2.04$). The mean Praxis II content scores of those students working part-time were ($M=173.43, SD=4.00$), and the mean Praxis II content scores of students not working were ($M=161.21, SD=2.83$). While there is a slightly significant variance in means, it should be noted that the content tests across majors are different and as such, significant findings should be viewed with caution as those differences could be attributable to the tests.

Public School Work Status

Of the 261 students in the study, 54.02% ($N=141$) work for the public schools in some capacity and 45.98% ($N=120$) do not work for the public schools. Of those that work in public schools 56.02% ($N=79$) were employed as teacher assistants. Table 1 in Chapter 3 provides a complete picture of the job categories of students in the sample that were employed in the public schools. For the analyses, students were grouped into the subgroups of employed in the public schools or not employed in the public schools.

Chi square tests were completed to compare public school work status to graduation and employment in the field. Statistically significant relationships were found between public school work status and graduated ($\chi^2 [6, N=261] = 6.73, p=0.03$) and between employment ($\chi^2 [6,$

$N=261$] = 8.43, $p=0.04$). While significance exists in these comparisons, the small N values for the withdrawn subgroup impact the overall variance within this analysis and as such the significant findings may be suspect.

Chi square tests were performed to compare public school work status to grades in the professional core courses of 2123 (χ^2 [1, $N=261$] = 1.62, $p=0.20$) and EDUC 4400 (χ^2 [4, $N=261$] = 3.56, $p=0.46$). Chi square tests were performed to compare public school work status to Senior I and II courses and reading courses. Results are indicated in Appendix B, Tables 18, 19, 20. No statistically significant relationships were found in the comparison of public school work status and grades in Senior I, II, and reading courses.

ANOVA was used to compare public school work status and overall edTPA scores, final GPA, and Praxis II tests scores. No significant relationships were found between public school work status and overall edTPA scores (F [1, 71] = 0.13, $p = 0.72$), or final GPA (F [1, 125] = 1.07, $p = 0.30$), or Praxis II core test scores (F [1, 47] = 0.14, $p = 0.71$), or Praxis II content scores (F [1, 46] = 0.14, $p = 0.4711$). Results are contained in Appendix B, Table 21.

Connection to Military

Of the 261 students within the study, 89.27% ($N=233$) were not connected to the military and 10.73% ($N=28$) were connected to the military. Of those connected to the military, 28.57% ($N=8$) were spouses of active military and 25% ($N=7$) were retired military.

Chi square tests were used to compare connection to military to the outcome measures of graduation and employment in the field. No statistically significant relationships existed to connection to the military and graduation (χ^2 [10, $N=261$] = 13.66, $p=0.19$) or employment (χ^2 [15, $N=261$] = 16.24, $p=0.37$). Chi square analyses were used to compare connection to the military to grades in the professional core courses of 2123 and EDUC 4400. No significant

relationships were found between connection to military and grades in 2123 ($\chi^2 [5, N=261] = 5.62, p=0.34$). A significant relationship between connection to military was found in comparison to grades in EDUC 4400 ($\chi^2 [20, N=261] = 48.09, p<0.001$). However, due to the small N counts in the subgroups included in specific connection to military and the grade retakes, the variances are tempered and should be viewed with caution.

Chi square tests were used to compare connection to military to grades in Senior I and II courses, and reading courses. No significant relationships were found between connection to military and grades in Senior I, II and reading courses. The results are contained in Appendix B, Tables 22, 23, 24.

ANOVA tests were performed comparing connection to military to overall edTPA scores, final GPA, and Praxis II test scores. No statistically significant relationships were found between connection to military and overall edTPA scores ($F [3, 69] = 1.28, p = 0.29$), or final GPA ($F [4, 122] = 0.62, p = 0.65$), or Praxis II core test scores ($F [4, 4] = 1.63, p = 0.18$), or Praxis II content scores ($F [4, 43] = 0.71, p = 0.58$). Results are indicated in Appendix B, Table 25.

Rural Status

The majority of the students within the sample ($N=261$) reside in rural areas with 75.68% ($N=198$) of the students residing in rural counties and 24.14% ($N=63$) residing in urban counties. Chi square tests were performed to compare the rural status demographic variable to the outcome measures of graduation and employment. No statistically significant relationships were found between rural status and graduation ($\chi^2 [2, N=261] = 1.76, p=0.47$) or employment ($\chi^2 [2, N=261] = 1.55, p=0.67$). Chi square analyses were used to compare rural status to grades in the professional core courses of 2123 and in EDUC 4400. No significant relationships were found

between rural status and grades in 2123 ($\chi^2 [1, N=261] = 0.94, p=0.33$) or in grades for EDUC 4400 ($\chi^2 [1, N=261] = 1.05, p=0.90$). Chi square tests were used to compare rural status to grades in Senior I and II courses, and reading courses. Given the representation of rural students in this sample, as expected, there were no statistically significant differences between rural status and grades in Senior I, II and reading courses. Results are contained in Appendix B, Tables 26, 27, 28.

ANOVA was used to compare rural status to overall edTPA scores, final GPA, and Praxis II test scores. No significant relationships were found between rural status and overall edTPA ($F [1, 71] = 0.95, p = 0.33$), or final GPA ($F [1, 125] = 0.03, p = 0.95$), or Praxis II core test scores ($F [1, 47] = 1.39, p = 0.24$), or Praxis II content test scores ($F [1, 46] = 0.54, p = 0.46$). Results are contained in Appendix B, Table 29.

Funding Source

Within the students sample ($N=261$), 57.85% ($N=151$) of students utilize their own funding to pay for classes and 42.15% ($N=110$) use other means of funding. In addition, 78.54% ($N=205$) receive some sort of funding through financial aid or loans and 21.46% ($N=56$) do not receive financial aid or loans. Chi square tests used to compare the demographic characteristic of funding source to include funding with own income and funding with financial aid or loans to graduation and employed. No significant relationships were found between funding with own income and graduated ($\chi^2 [2, N=261] = 1.31, p=0.52$ or employed ($\chi^2 [3, N=261] = 6.21, p=0.10$). No significant relationships were found between funding with financial aid/loan and graduated ($\chi^2 [2, N=261] = 3.11, p=0.21$) or employed ($\chi^2 [3, N=261] = 3.22, p=0.36$).

Chi square analyses were used to compare funding with own income to grades in professional core courses of 2123 and EDUC 4400 No significant relationships were found

between funding with own income and grades in 2123(χ^2 [1, $N=261$] = 0.05, $p=0.82$) or EDUC 4400(χ^2 [2, $N=261$] = 7.16, $p=0.12$). Chi square analyses were used to compare funding with financial aid to grades in professional core courses of 2123 and EDUC 4400. No significant relationships were found between funding with own income and grades in 2123(χ^2 [1, $N=261$] = 1.51, $p=0.22$) or EDUC 4400(χ^2 [4, $N=197$] = 1.90, $p=0.75$). Chi square tests were used to compare funding with own income to grades in Senior I and II courses, and reading courses. No statistically significant relationships were found in this comparison. Results are contained in Appendix B, Tables 30, 31, 32. Chi square tests were used to compare funding with financial aid/loans to grades in Senior I and II courses, and reading courses. No statistically significant relationships were found in this comparison. Results are contained in Appendix B, Tables 33, 34, 35.

ANOVA was used to compare funding with own income to overall edTPA scores and final GPA. No statistically significant relationships were found between funding and overall edTPA scores (F [1, 71] = 0.47, $p = 0.49$) or final GPA (F [1, 125] = 0.05, $p = 0.81$). Appendix B, Table 36 outlines the results for each ANOVA test.

ANOVA was used to compare funding with financial aid/loans to overall edTPA scores and final GPA. No statistically significant relationships were found between funding and overall edTPA scores (F [1, 71] = 0.30, $p = 0.58$) or final GPA (F [1, 125] = 2.51, $p = 0.12$). Appendix B, Table 37 outlines the results for each ANOVA test.

ANOVA was used to compare funding with own income by Praxis II core test scores and Praxis II content test scores. A statistically significant relationship was found between funding with own income and Praxis II core test scores (F [1, 47] = 4.88, $p = 0.03$). No significant relationship was found between funding with own income and Praxis II content test scores (F [1,

46] = 3.31, $p = 0.07$). The mean for those that did not use their own income was ($M=167.90$, $SD=2.69$), and the mean for those that indicated they did use their own income was ($M=175.50$, $SD=2.14$). Results for these analyses are contained in Appendix B, Tables 36 and 37.

ANOVA was used to compare funding with financial aid/loans by Praxis II core test scores and Praxis II content test scores. No significant relationships were found between funding with financial aid/loans and Praxis II core scores ($F [1, 47] = 0.82$, $p = 0.37$), or Praxis II content scores ($F [1, 46] = 0.16$, $p = 0.69$).

Analyses of Student Attitudes about Academic Integration and Performance Outcomes

To investigate the second group hypothesis that stated that there is no significant difference between student attitudes about academic integration and student performance outcomes, chi square and ANOVA tests were performed. Questions related to academic integration on the WPE Status Survey were tested against the student performance outcome measures. Attitudes about instruction, advising, program structure, and other support were compared to the outcome measures. The student performance outcomes included graduation, employment, professional core grades, overall all performance score on the edTPA final portfolio, final grade point average, and Praxis II test scores.

Graduated

Instruction received. Chi square tests were completed comparing the outcome variable of graduation to the survey questions related to instruction received to include questions about the effectiveness of instruction ($\chi^2 [6, N=261] = 10.69$, $p=0.10$) and knowledge about teaching diverse students ($\chi^2 [8, N=261] = 11.19$, $p=0.19$) and English as a Second Language students ($\chi^2 [2, N=261] = 5.34$, $p=0.72$). No statistically significant differences were found. An ANOVA test was performed comparing perceptions of the enrolled ($N=109$, $M=4.21$, $SD=0.06$),

graduated ($N=132$, $M=4.41$, $SD=0.06$), and withdrawn ($N=15$, $M=4.00$, $SD=0.17$) to ratings of overall instruction ($F [2, 253] = 4.20$, $p=0.02$). Slightly statistically significant differences were found. ANOVA results are contained in Appendix B, Table 38.

Advising received. The variables related to advising were analyzed as well. Attitudes about the amount of advising to the graduation outcome were tested with a chi square test and found not statistically significant ($\chi^2 [8, N=261] = 13.56$, $p=0.10$). An ANOVA on the rating of overall advising by graduated yielded no statistically significant difference ($F [2, 254] = 2.44$, $p=0.09$). These results are contained in Appendix B, Table 38.

Program structure. Chi square tests comparing the outcome measure of graduated to attitudes about convenience ($\chi^2 [2, N=261] = 2.62$, $p=0.27$), amount of classes within the program ($\chi^2 [6, N=261] = 41.39$, $p<0.001$), and delivery mode ($\chi^2 [8, N=261] = 10.11$, $p=0.26$) were completed. Only the amount of classes had a statistically significant associated with graduated. Further analyses on amount of classes and delivery mode found 20% of the cells with an expected count of less than 5 making the significant results suspect.

Other support. Chi square tests comparing the outcome of graduated to attitudes about other support to include tutorials ($\chi^2 [8, N=261] = 11.49$, $p=0.18$), hardware/software support ($\chi^2 [8, N=261] = 10.44$, $p=0.11$), usefulness of the WPE website ($\chi^2 [8, N=261] = 3.50$, $p=0.90$), and technology tools ($\chi^2 [6, N=261] = 6.03$, $p=0.42$) were completed. No statistically significant differences were found. An ANOVA on the rating of student attitudes about overall support by graduated ($F [2, 243] = 1.82$, $p=0.16$) yielded no statistically significant differences as well. Results are contained in Appendix B, Table 38.

Employed

Instruction received. Chi square tests were completed comparing the outcome variable of employed to the survey questions related to instruction received to include questions about the effectiveness of instruction ($\chi^2 [9, N=261] = 13.13, p=0.16$) and knowledge about teaching diverse students ($\chi^2 [12, N=261] = 16.54, p=0.17$) and English as a Second Language students ($\chi^2 [12, N=261] = 8.61, p=0.74$). No statistically significant differences were found. An ANOVA test was performed comparing the post-graduation employment status of not employed ($N=43, M=4.34, SD=0.10$), employed ($M=4.43, SD=0.07$) and withdrawn ($N=15, M=4.00, SD=0.17$) to the rating of overall instruction ($F [3, 252] = 2.96, p=0.03$). While the results are slightly significant, the small N count of withdrawn students may affect the analysis. Results are contained in Appendix B, Table 39.

Advising received. The variables related to advising were analyzed as well. Attitudes about the amount of advising to the employment outcome were tested with a chi square test ($\chi^2 [12, N=261] = 17.98, p=0.12$) and yielded no statistically significant differences. An ANOVA on the rating of overall advising ($F [3, 253] = 1.64, p=0.18$) yielded no statistically significant differences either (see Appendix B, Table 39).

Program structure. Chi square tests comparing the outcome measure of employed to attitudes about convenience ($\chi^2 [3, N=261] = 2.65, p=0.45$), amount of classes within the program ($\chi^2 [9, N=261] = 43.20, p= <0.0001$), and delivery mode ($\chi^2 [12, N=261] = 11.75, p=0.47$) were completed. While statistically significant difference was found for employment by amount of classes, the 20% of the cells had an expected count of less than five making the significant chi square value inconclusive.

Other support. Chi square tests comparing the outcome of employed to attitudes about other support to include tutorials ($\chi^2 [12, N=261] = 15.92, p=0.19$), hardware/software support ($\chi^2 [9, N=261] = 14.69, p=0.10$), usefulness of the WPE website ($\chi^2 [12, N=261] = 7.91, p=0.79$), and technology tools ($\chi^2 [12, N=261] = 9.21, p=0.42$) were completed and yielded no statistically significant findings. An ANOVA on the rating of student attitudes about overall support ($F [3, 242] = 1.46, p=0.25$) yielded no statistically significant findings as well (see Appendix B, Table 39).

Grades in 2123 by Major and EDUC 4400

Instruction received. Chi square tests were completed comparing the outcome variable of grades in professional core courses 2123 for each major and EDUC 4400 to the survey questions related to instruction received to include questions about the effectiveness of instruction and knowledge about teaching diverse and English as a Second Language students. There were no statistically significant differences found. Results may be found in Appendix B, Table 40. ANOVA tests were performed comparing the 2123 courses for each major and 4400 grades to the rating of overall instruction (1=Poor, 5=Outstanding). No statistically significant differences were found $F_{2123} (1,254) = 0.02, p = 0.89$; $F_{EDUC4400} (4,189) = 1.57, p = 0.18$.

Advising received. The variables related to advising were analyzed in comparison the professional core grades in 2123 by major and EDUC 4400 using chi square tests. No statistically significant differences were found (see Appendix B, Table 41). An ANOVA on the rating of overall advising compared by grades in the 2123 courses yielded statistically significant results ($F [1,255] = 11.85, p = 0.0007$). Students with a grade of A ($M=4.59, SD=0.05$) rated overall advising higher than students with a grade of B ($M=3.82, SD = 0.22$). To note, the small count of a grade of B ($N=11$) in the 2123 course may affect the variance within the ANOVA

performed. There was no statistically significant difference in advising perceptions by grades in EDUC 4400 ($F [4,189] = 1.82, p = 0.13$).

Program structure. Chi square tests comparing the outcome measure of grades in 2123 for each major to attitudes about convenience ($\chi^2 [1, N=261] = 0.75, p=0.39$), amount of classes within the program ($\chi^2 [3, N=261] = 2.85, p=0.42$), and delivery mode ($\chi^2 [4, N=261] = 8.46, p=0.08$) were completed and yielded no statistically significant differences. Chi square tests comparing the outcome measure of grades in EDUC 4400 to attitudes about convenience ($\chi^2 [4, N=197] = 12.29, p=0.24$), amount of classes within the program ($\chi^2 [12, N=197] = 4.34, p=0.98$), and delivery mode ($\chi^2 [16, N=261] = 38.87, p=0.51$) were completed and yielded no statistically significant differences. Results may be found in Appendix B, Table 41.

Other support. Chi square tests were used to compare the outcome of grades in 2123 by major and EDUC 4400 to attitudes about other support to include tutorials, hardware/software support, usefulness of the WPE website, and technology tools were completed and were not statistically significant. Results are contained in Appendix B, Table 42. An ANOVA on the rating of student attitudes about overall support to 2123 course grades by major yielded statistically significant results ($F [1,244] = 6.53, p = 0.01$) with students earning a grade of A ($M=3.30, SD=0.05$) rating overall support higher than students earning a grade of B ($M=2.72, SD=0.53$). To note, the small count of a grade of B ($N=11$) in the 2123 course may affect the variance within the ANOVA performed. An ANOVA on the rating of overall support compared to grades in the EDUC 4400 course yielded no statistically significant results ($F [4,184] = 1.05, p = 0.38$).

Grades in Senior I Courses

Given the number of courses, statistics for the chi square analyses related to Senior I grades are summarized in Appendix B, Tables 43, 44, 45, and 46.

Instruction received. Chi square tests were completed comparing the outcome variable of grades in professional core courses within the Senior I semester for each major to the survey questions related to instruction received to include questions about the effectiveness of instruction and knowledge about teaching diverse and English as a Second Language students. No statistically significant differences were found (see Appendix B, Table 43). An ANOVA test was performed comparing the Senior I grades to the rating of overall instruction (1=Poor, 5=Outstanding). No statistically significant differences were found in the rating of overall instruction by Senior I grades for any course (see Appendix B, Table 46), with the exception of the SPED 4100 course ($F [1, 32] = 5.84, p = 0.02$). Ironically, students with a grade of A ($M=4.23, SD =0.11$) rated overall instruction lower than students with a grade of B ($M=5.00, SD=0.30$). While this result is statistically significant, the count for the grade of B is $N=4$ and as such any significance should be viewed as suspect due to the small count.

Advising received. The variables related to advising were analyzed in comparison the professional core grades in the Senior I courses for each major. Attitudes about the amount of advising to grades in Senior I were tested with a chi square test and yielded no statistically significant results for ELEM 4525 ($\chi^2 [8, N=90] = 13.98, p=0.08$); SPED 4010 ($\chi^2 [8, N=90] = 31.28, p=0.06$); or MIDG 4010 ($\chi^2 [15, N=26] = 9.39, p=0.85$). An ANOVA on the rating of overall advising compared to grades in each of the Senior I courses did not reveal statistically significant differences (See Appendix B, Table 46).

Program structure. Chi square tests comparing the outcome measure of grades in the Senior I courses for each major to attitudes about convenience, amount of classes within the program, and delivery mode were completed and yielded no statistically significant differences (see Appendix B, Table 44).

Other support. Chi square tests comparing the outcome of grades in the Senior I courses for each major to attitudes about other support to include tutorials, hardware/software support, usefulness of the WPE website, and technology tools were completed and yielded no statistically significant differences (see Appendix B, Table 45). ANOVA tests were performed comparing the grades in the Senior I courses to the overall rating for other support. For each Senior I course, no statistically significant findings were revealed (see Appendix B, Table 46).

Grades in Senior II Courses

Instruction received. Chi square tests were completed comparing the outcome variable of grades in professional core courses within the Senior II semester for each major to the survey questions related to instruction received to include questions about the effectiveness of instruction and knowledge about teaching diverse and English as a Second Language students. No statistically significant differences resulted (see Appendix B, Table 47). ANOVA tests were performed comparing the Senior II grades to the rating of overall instruction (1=Poor, 5=Outstanding). No statistically significant differences were found with ELEM 4524 ($F [4,84] = 0.46, p = 0.77$); ELEM 4525 ($F [4,84] = 0.85, p=0.50$); SPED 4320 ($F [4,84] = 0.85, p=0.50$); SPED 4324 ($F [4,84] = 0.46, p=0.77$); MIDG 4324 ($F [4,13] = 2.39, p=0.10$); and MIDG 4325 ($F [2,15] = 0.02, p=0.98$).

Advising received. The variables related to advising were analyzed in comparison the professional core grades in the Senior II courses for each major. Attitudes about the amount of

advising to the Senior II grades outcome were tested with a chi square test and yielded no statistically significant values with ELEM 4524 (χ^2 [16, $N=90$] = 56.68, $p=0.09$); ELEM 4526 (χ^2 [12, $N=90$] = 3.19, $p=0.99$); SPED 4320 (χ^2 [16, $N=90$] = 47.04, $p=0.9607$); SPED 4324 (χ^2 [16, $N=90$] = 56.58, $p=0.50$); MIDG 4324 (χ^2 [12, $N=18$] = 22.34, $p=0.37$); and MIDG 4325 (χ^2 [6, $N=18$] = 3.20, $p=0.78$). An ANOVA on the rating of overall advising compared to grades in each of the Senior II courses for each major resulted significant p values for these courses ELEM 4524 (F [4,84] = 11.07, $p < 0.0001$); ELEM 4525 (F [4,84] = 10.38, $p < 0.0001$); SPED 4320 (F [4,84] = 10.38, $p < 0.0001$); SPED 4324 (F [4,84] = 11.07, $p < 0.0001$); MIDG 4324 (F [4,13] = 4.49, $p=0.02$). While statistically significant values were found in these comparisons, the variance can be attributed to small numbers of students who retook the course or received grades less than A in each of the courses and as such the significance of these analyses is inconclusive or may be a result of grade inflation.

Program structure. Chi square tests comparing the outcome measure of grades in the Senior II courses for each major to attitudes about convenience, amount of classes within the program, and delivery mode were completed and yielded no statistically significant differences (see Appendix B, Table 48).

Other support. Chi square tests comparing the outcome of grades in the Senior II courses for each major to attitudes about other support to include tutorials, hardware/software support, usefulness of the WPE website, and technology tools were completed and yielded no statistically significant differences (See Appendix B, Table 49). ANOVA tests were performed comparing the grades in the Senior II courses to the overall rating for other support. For the following Senior II courses, no significant differences were found; MIDG 4324 (F [3, 13] = 0.82, $p=0.50$) and MIDG 4325 (F [2, 14] = 0.83, $p=0.46$). For the following Senior II courses,

significant differences were found; ELEM 4524 ($F [4, 83] = 3.91, p=0.01$); ELEM 4525 ($F [4, 83] = 4.39, p=0.03$); SPED 4320 ($F [4,84] = 4.39, p=0.03$) and SPED 4324 ($F [4,83] = 3.91, p=0.01$). While statistically significant values were found in these comparisons, the variance can be attributed to small numbers of students who retook the courses or received grades less than A in each of the courses and as such the significance of these analyses is inconclusive.

Grades in Reading Courses

Instruction received. Chi square tests were completed comparing the outcome variable of grades in reading courses to the survey questions related to instruction received to include question about the effectiveness of instruction and knowledge about teaching diverse and English as a Second Language students. No statistically significant differences were found (See Appendix B, Table 50). An ANOVA test was performed comparing the reading course grades to the rating of overall instruction (1=Poor, 5=Outstanding). No significant differences were found with the exception of READ 5317 ($F [3,139] = 3.10, p = 0.03$). The statistically significant finding for this course should be viewed with caution as the variance of small numbers of students who retook the course after failing it may be the cause of such variance.

Advising received. The variables related to advising were analyzed in comparison the reading course grades. Attitudes about the amount of advising to the reading grades outcome were tested with a chi square test did not yield any significant differences with READ 3302 ($\chi^2 [16, N=135] = 25.62, p=0.06$); READ 3305 ($\chi^2 [32, N=170] = 19.21, p=0.96$); READ 3206 ($\chi^2 [28, N=170] = 20.84, p=0.83$); READ 4534 ($\chi^2 [12, N=99] = 105.82, p=0.10$); READ 5316 ($\chi^2 [36, N=178] = 14.80, p=1.00$); and READ 5317 ($\chi^2 [12, N=144] = 20.85, p=0.06$). ANOVA analyses on the rating of overall advising compared to grades in each of the reading courses resulted significant p values for these courses: READ 3302 ($F [4,128] = 3.01, p = 0.02$) and

READ 5317 ($F [3,138] = 3.90, p = 0.01$). The statistically significant finding for this course should be viewed with caution as the variance of small numbers of students who retook the course after failing it may be the cause of such variance.

Program structure. Chi square tests comparing the outcome measure of grades in the reading courses to attitudes about convenience, amount of classes within the program, and delivery mode were completed. READ 5317 and READ 4534 resulted in statistically significant differences as outlined in Appendix B, Table 51. However, the statistically significant finding for these courses should be viewed with caution as the variance of small numbers of students who retook the course after failing it may be the cause of such variance. All other READ courses resulted in no significant differences as contained in Appendix B, Table 51.

Other support. Chi square tests comparing the outcome of grades in reading courses to attitudes about other support to include tutorials, hardware/software support, usefulness of the WPE website, and technology tools were completed and yielded no significant differences with the exception of READ 4534 (see Appendix B, Table 52). The statistically significant finding for this course should be viewed with caution as the variance of small numbers of students who retook the course after failing it may be the cause of such variance.

ANOVA tests were performed comparing the grades in the reading courses to the overall rating for other support. No statistically significant differences resulted in READ 3302 ($F [4,125] = 1.19, p = 0.31$); READ 3305 ($F [8,154] = 0.49, p = 0.86$); READ 3306 ($F [7,155] = 0.41, p = 0.89$); READ 5316 ($F [9,162] = 0.48, p = 0.89$); and READ 5317 ($F [3,136] = 1.82, p = 0.15$). A slightly significant finding resulted for READ 4534 ($F [2, 92] = 3.50, p = 0.03$). The statistically significant finding for this course should be viewed with caution as the variance of

small numbers of students who retook the course after failing it may be the cause of such variance.

edTPA Overall Score

Instruction received. ANOVA tests were completed comparing the outcome variable of overall edTPA score to the survey questions related to instruction received to include question about the effectiveness of instruction ($F [3,69] = 1.96, p = 0.13$) and knowledge about teaching diverse students ($F [3,69] = 1.80, p = 0.16$) and English as a Second Language students ($F [4,68] = 0.22, p = 0.93$). No statistically significant differences were found.

Advising received. The variables related to advising were analyzed in comparison to the overall edTPA scores using ANOVA. No significant differences were found between attitudes about the amount of advising to the edTPA outcome ($F [4, 68] = 1.44, p = 0.23$).

Program structure. ANOVA tests comparing the outcome measure of overall edTPA scores to attitudes about convenience ($F [1, 71] = 0.01, p = 0.90$), amount of classes within the program ($F [2,70] = 1.16, p = 0.31$), and delivery mode ($F [4,68] = 1.36, p = 0.26$) were completed. No statistically significant differences were found.

Other support. ANOVA tests comparing the outcome of overall edTPA scores to attitudes about other support to include tutorials ($F [4, 68] = 3.55, p = 0.10$), hardware/software support ($F [3,69] = 1.61, p = 0.19$), usefulness of the WPE website ($F [3,69] = 1.59, p = 0.20$), and technology ($F [3,69] = 1.04, p = 0.38$) tools were completed. No statistically significant differences resulted.

Final GPA

Instruction received. ANOVA analyses were performed comparing the outcome of final GPA to the survey questions related to instruction received to include question about the

effectiveness of instruction ($F [3,123] = 5.03, p=0.003$) and knowledge about teaching diverse ($F [3,123] = 4.25, p= 0.01$) and English as a Second Language students ($F [4,122] = 0.69, p = 0.60$). Statistically significant differences resulted. However, the statistically significant findings for effectiveness of instruction and knowledge about diverse students should be viewed with caution as the variance is likely caused by the small count of those survey participants who did not answer these questions within the survey.

Advising received. An ANOVA test was performed comparing the final GPA to student attitudes about the amount of advising received ($F [4,122] = 3.40, p=0.01$). The statistically significant result students should be viewed with caution as the variance is likely caused by those survey participants who did not answer this question within the survey.

Program structure. ANOVA tests comparing the outcome measure of final GPA to attitudes about the amount of classes within the program ($F [3,123] = 1.71, p = 0.17$) and delivery mode ($F [4,122] = 1.39, p = 0.24$) were completed and no statistically significant differences were found. An ANOVA was used to compare convenience to final GPA ($F [1,125] = 20.88, p=<0.0001$) with those who indicated that the program is convenient ($N=117$) have a final GPA ($M=3.74, SD=0.03$) and those who did not indicate that the program is convenient ($N=10$) have a final GPA ($M=3.32, SD=0.09$). Those who did not find the program convenient had lower mean GPAs than those who did find the program convenient.

Other support. ANOVA tests comparing the outcome of final GPA to attitudes about other support to include tutorials ($F [4,122] = 1.57, p = 0.19$), hardware/software support ($F [3,123] = 1.84, p = 0.14$), usefulness of the WPE website ($F [4,122] = 0.63, p = 0.64$), and technology tools ($F [3,123] = 1.84, p = 0.14$) were completed. No significant differences were found.

Praxis II Scores

Instruction received. ANOVA tests were completed comparing the outcome variables of Praxis II scores to the survey questions related to instruction received to include question about the effectiveness of instruction ($F [2,46] = .054, p = 0.59$); Praxis II core tests ($F [2,45] = 0.93, p = 0.40$). No statistically significant differences were found. Perceptions about knowledge in teaching diverse learners were compared to Praxis II core tests ($F [1, 20] = 0.83, p = 0.44$) and Praxis II content tests ($F [2, 45] = 0.74, p = 0.48$). No statistically significant differences were found in the ANOVA. The ANOVA tests were used to compare perceptions about working with English as a Second Language students to Praxis II core tests ($F [3, 45] = 0.42, p = 0.74$) and Praxis II content tests ($F [3, 44] = 0.39, p = 0.76$). No statistically significant differences resulted.

Advising received. The variables related to advising were analyzed in comparison to the Praxis II scores. An ANOVA was used to compare attitudes about the amount of advising to the Praxis II scores. No statistically significant differences resulted between perceptions about the amount of advising and Praxis II core tests ($F [3, 45] = 0.13, p = 0.94$) or Praxis II content tests ($F [3, 44] = 1.24, p = 0.31$).

Program structure. ANOVA tests were used to compare Praxis II scores to attitudes about convenience. No statistically significant differences were found between attitudes about convenience and Praxis II core tests ($F [1, 47] = 1.23, p = 0.27$) or Praxis II content tests ($F [1, 46] = 0.01, p = 0.94$). ANOVA was used to compare attitudes about amount of classes within the program to Praxis II scores. No statistically significant results were found between attitudes about the amount of advising and Praxis II core tests ($F [3, 46] = 0.46, p = 0.71$) or Praxis II content tests ($F [3, 44] = 1.04, p = 0.39$). ANOVA was used to compare attitudes about delivery

mode to Praxis II scores. No statistically significant results were found between attitudes about delivery mode and Praxis II core tests ($F [1, 47] = 0.40, p = 0.84$) or Praxis II content tests ($F [1,46] = 0.40, p = 0.53$).

Other support. ANOVA tests were used to compare attitudes about other support to Praxis II scores. No statistically significant results were found between attitudes about tutorials and Praxis II core tests ($F [3, 45] = 1.19, p = 0.32$) or Praxis II content tests ($F [3, 44] = 0.59, p = 0.62$). ANOVA was used to compare attitudes about hardware/software support compared to Praxis II scores. No statistically significant findings resulted between attitudes about hardware/software to Praxis II core tests ($F [2, 27] = 0.89, p = 0.42$) or Praxis II content tests ($F [2,45] = 2.29, p = 0.11$). ANOVA was used to compare attitudes about usefulness of the WPE website to Praxis II scores. Statistically significant differences resulted between attitudes about the website and Praxis II core tests ($F [2, 46] = 5.46, p = 0.01$) or Praxis II content tests ($F [2, 45] = 1.51, p = 0.23$). The ANOVA tests for technology tools resulted in no significant differences when compared to Praxis II core tests ($F [2, 46] = 0.38, p = 0.60$) or Praxis II content tests ($F (2,45) = 0.43, p = 0.66$).

Analyses of Student Attitudes about Social Integration and Performance Outcomes

To investigate the third grouped null hypothesis that stated that there is no significant difference between student attitudes about social integration and student performance outcomes, chi square and ANOVA tests were performed. Questions related to social integration on the WPE Status Survey were tested against the student performance measures. Student attitudes about communication and interaction with instructors, advisors, and fellow cohort students were compared to the outcome measures. The student performance outcomes included graduation,

employment, professional core grades, overall all performance score on the edTPA final portfolio, final grade point average, and Praxis II test scores.

Graduated

Interaction with instructors. Student attitudes about interactions with instructors to include faculty support ($\chi^2 (2, N=261) = 5.12, p=0.08$), timely response of instructors ($\chi^2 (8, N=261) = 29.66, p=0.20$), helpfulness of face to face meetings ($\chi^2 (8, N=261) = 17.59, p=0.20$), and perceived skills gained ($\chi^2 (8, N=261) = 26.22, p=0.10$) were compared to the outcome measure of graduated utilizing a series of chi square tests. Those participants that did not indicate a response for the survey questions were removed and no significant differences were found.

Interaction with advisors. A chi square analysis was performed on the participant responses that indicated that assistance from an advisor was influential in continued participation within the program. A statistically significant difference was found ($\chi^2 [2, N=261] = 6.92, p=0.03$) with Table 13 outlining additional results. Those students who withdrew perceived the assistance from the advisor as less influential for persistence compared to those who were currently enrolled or who had graduated. In addition, a chi square analysis was performed comparing student attitudes about advisor timely response to the outcome measure of graduated. No statistically significant results were found between graduated and attitudes about the timely response of the advisor ($\chi^2 [8, N=261] = 10.45, p=0.23$).

Interaction with cohort members. A chi square analysis was performed on the participant responses that indicated that interaction with cohort members was influential in continued participation within the program. A statistically significant difference between graduated and attitudes about cohort interaction was found ($\chi^2 (2, N=261) = 12.05, p=0.002$) with Table 14 outlining additional details about the results. Those individuals who withdrew

Table 13

Graduated by Influential Factor- Assistance from Advisor

Status	Assistance from Advisor Influential			
	No	N	Yes	N
Enrolled	12.61%	14	87.39%	97
Graduated	22.56%	30	77.44%	103
Withdrew	35.29%	6	64.71%	11

Table 14

Graduated by Influential Factor – Support from Cohort Members

Status	Support from Cohort Influential			
	No	N	Yes	N
Enrolled	35.14%	39	64.86%	72
Graduated	24.81%	33	75.19%	100
Withdrew	64.71%	11	35.29%	6

perceived support from cohort members as less influential for persistence compared to those who were currently enrolled or who had graduated.

In addition, a chi square analysis was performed comparing student responses about whether the participants would recommend the program to others to the outcome measure of graduated. No significant differences were found between graduated and recommendation to others ($\chi^2 [8, N=261] = 8.83, p=0.30$).

Employed

Interaction with instructors. Chi square tests were performed to compare the outcome measure of employed to attitudes about interaction with instructors. No statistically significant differences resulted between the outcome of employed and student attitudes about faculty support ($\chi^2 [3, N=258] = 5.41, p=0.14$); timely response of instructors ($\chi^2 [12, N=258] = 31.97, p=0.10$); helpfulness of face to face meetings ($\chi^2 [12, N=258] = 20.49, p=0.06$), or perceived skills gained ($\chi^2 [12, N=258] = 30.32, p=0.05$).

Interaction with advisors. A chi square analysis was used to compare the outcome measure of employed to student attitudes about interaction with advisors. No statistically significant differences were found between employed and attitudes about assistance from an advisor being influential ($\chi^2 [3, N=261] = 6.94, p=0.07$) or the timely response of the advisor ($\chi^2 [12, N=261] = 17.12, p=0.15$).

Interaction with cohort members. A chi square analysis was used to compare the outcome measure of employed by the participant responses that indicated that interaction with cohort members was influential in continued participation within the program. A statistically significant difference was found between employed and the influential factor of cohort support

Table 15

Employed by Influential Factor – Support from Cohort Members

Status	Support From Cohort Influential			
	No	N	Yes	N
Enrolled	35.14%	39	64.86%	72
Not Employed	27.91%	12	72.09%	31
Withdrew	64.71%	11	35.29%	6
Employed	23.33%	21	76.67%	69

(χ^2 (3, $N=261$) = 12.33, $p=0.01$) with Table 15 outlining additional information about the results.

Those that withdrew perceived cohort support as much less influential than those who were currently enrolled in the program, those who were graduated but not employed yet, and those who were graduated and employed.

In addition, a chi square analysis was performed comparing student responses about whether the participants would recommend the program to others to the outcome measure of employed. No statistically significant differences were found between employed and recommendation of the program (χ^2 [12, $N=261$] = 10.41, $p=0.58$).

Grades in 2123 by Major and EDUC 4400

Interaction with instructors. Chi square tests were used to compare grades in 2123 for each major and EDUC 4400 to student attitudes about interactions with instructors. No statistically significant differences resulted between grades in 2123 and EDUC 4400 and attitudes about faculty support (χ^2 [3, $N=261$] = 5.41, $p=0.14$); timely response of instructors (χ^2 [12, $N=261$] = 31.97, $p=0.06$); helpfulness of face to face meetings (χ^2 [12, $N=261$] = 20.49, $p=0.06$); or perceived skills gained (χ^2 [12, $N=261$] = 30.32 $p=0.10$).

Interaction with advisors. Chi square analyses were performed on the participant responses that indicated that assistance from an advisor was influential in continued participation within the program in comparison to grades in 2123 and EDUC 4400. No statistically significant differences resulted in advisor influence and grades in 2123 (χ^2 [1, $N=261$] = 2.20, $p=0.14$) or EDUC 4400 (χ^2 [4, $N=261$] = 2.40, $p=0.66$). Chi squares were also performed on whether or not the advisors were timely in their responses to students in comparison to grades in 2123 and EDUC 4400. No statistically significant results were found between attitudes about advisor

response and grades in 2123 (χ^2 [4, $N=261$] = 8.88, $p=0.06$) or EDUC 4400 (χ^2 [16, $N=261$] = 13.03, $p=0.67$).

Interaction with cohort members. Chi square analyses were performed on student attitudes about whether interaction with cohort members was important for persistence within the program to grades in 2123 and EDUC 4400. No statistically significant results were found between cohort support and grades in 2123 (χ^2 [1, $N=261$] = 0.99, $p=0.32$) or EDUC 4400 (χ^2 [4, $N=261$] = 6.82, $p=0.15$). Chi square analyses were performed on student attitudes about whether or not they would recommend the program to others to grades in 2123 and EDUC 4400. No statistically significant results were found between recommendation and grades in 2123 (χ^2 [4, $N=261$] = 1.07, $p=0.90$) or EDUC 4400 (χ^2 [16, $N=261$] = 17.33, $p=0.37$).

Grades in Senior I Courses

Interaction with instructors. Student attitudes about interactions with instructors to include faculty support, timely response of instructors, helpfulness of face to face meetings, and perceived skills gained were compared to the outcome measure of grades in Senior I courses utilizing a series of chi square tests. The results are outlined in Appendix B, Table 53.

Statistically significant differences were found between attitudes about instructor interactions in ELEM 4525, SPED 4010. However, the values yielded are affected by the small counts of students who retook courses and the chi square significant results should be viewed with caution.

Interaction with advisors. Chi square analyses were performed on the participant responses that indicated that assistance from an advisor was influential in continued participation within the program as well as whether or not the advisors were timely in their responses to students in comparison to grades in Senior I courses. The resulting tests are outlined in Appendix B, Table 54. No statistically significant differences resulted between attitudes about advisor

interaction and grades in Senior I with the exception of SPED 4010(χ^2 [6, $N=90$] = 13.16, $p=0.04$). However, the values yielded are affected by the small counts of students who retook the course and the chi square significant results should be viewed with caution.

Interaction with cohort members. Chi square analyses were performed comparing grades in Senior I courses to student attitudes about whether interaction with cohort members was important for persistence within the program and whether or not they would recommend the program to others. No statistically significant differences in attitudes about cohort interaction and Senior I courses were found with the exception of SPED 4010(χ^2 [6, $N=90$] = 12.74, $p=0.00$). This significant result that should be viewed with caution due to the small count ($N=1$) of students who made a C in the course. The resulting tests yielded the values listed in Appendix B, Table 55.

Grades in Senior II Courses

Interaction with instructors. Student attitudes about interactions with instructors to include faculty support, timely response of instructors, helpfulness of face to face meetings, and perceived skills gained were compared to the outcome measure of grades in Senior II courses utilizing a series of chi square tests. No statistically significant differences between student attitudes about instructor interaction and grades in Senior II courses. Results are contained in Appendix B, Table 56.

Interaction with advisors. Chi square analyses were used to compare the participant responses that indicated that assistance from an advisor was influential in continued participation within the program as well as whether or not the advisors were timely in their responses to students to grades in Senior II courses. Several statistically significant differences between attitudes about advisor interaction and grades in Senior II courses were found and are contained

Appendix B, Table 57. The significant values within the table should be viewed with caution as the small counts of students who had grades below A may affect the values reflected. Very few students receive grades below A in the Senior II courses across all the majors within the study.

Interaction with cohort members. Chi square analyses were performed comparing grades in Senior II courses to student attitudes about whether interaction with cohort members was important for persistence within the program and whether or not they would recommend the program to others. No statistically significant differences between attitudes about cohort interaction and grades in Senior II courses were found. The results are contained in Appendix B, Table 58.

Grades in Reading Courses

Interaction with instructors. Chi square tests were used to compare student attitudes about interactions with instructors to include faculty support, timely response of instructors, helpfulness of face to face meetings, and perceived skills gained were compared to the outcome measure of grades in reading courses. The results are contained Appendix B, Table 59. Several significant differences were found between attitudes about instructor interaction and grades in reading courses. However, these results should be viewed with caution as the small counts of students who retook courses impact these results.

Interaction with advisors. Chi square analyses were used to compare the participant responses that indicated that assistance from an advisor was influential in continued participation within the program as well as whether or not the advisors were timely in their responses to students to grades in reading courses. The results are contained in Appendix B, Table 60. Significant differences resulted between attitudes about advisor response and grades in READ 3302 (χ^2 [16, $N=135$] = 33.66, $p=0.01$) and READ 4534 (χ^2 [9, $N=99$] = 42.36, $p=0.00$).

However, these results should be viewed with caution as the small counts of students who retook courses impact these results.

Interaction with cohort members. Chi square analyses were used to compare grades in reading courses to student attitudes about whether interaction with cohort members was important for persistence within the program and whether or not they would recommend the program to others. The results are contained in Appendix B, Table 61. Statistically significant differences between attitudes about cohort interaction and grades in several reading courses were found. However, these results should be viewed with caution as the small counts of students who retook courses impact these results.

Overall edTPA Scores

Interaction with instructors. ANOVA was used to compare student attitudes about interactions with instructors to overall edTPA scores. No statistically significant differences were found between overall edTPA scores and attitudes about faculty support ($F [1, 71] = 0.03, p = 0.95$); timely response of instructors ($F [3, 69] = 1.35, p = 0.27$); helpfulness of face to face meetings ($F [4,68] = 0.85, p = 0.50$); or perceived skills gained ($F [3,69] = 0.63, p = 0.60$). The results are indicated in Appendix B, Table 62.

Interaction with advisors. ANOVA was used to compare attitudes about advisor interaction and overall edTPA scores. No statistically significant differences were found between edTPA scores and attitudes about advisor assistance ($F [1, 71] = 0.03, p = 0.86$) or advisor timely response ($F [4,68] = 0.36, p = 0.83$). The results are outlined in Appendix B, Table 62.

Interaction with cohort members. ANOVA analyses were performed comparing overall edTPA scores to student attitudes about cohort interaction. No statistically significant differences were found between edTPA scores and attitudes about cohort support ($F [1, 71] =$

0.01, $p = 0.93$) or recommendation to others ($F [3, 69] = 0.75, p = 0.53$). The results are outlined in Appendix B, Table 62.

Final GPA

Interaction with instructors. ANOVA was used to compare student attitudes about interactions with instructors to include to the outcome measure of final GPA. No statistically significant differences were found between final GPA and student attitudes about faculty support, helpfulness of face to face meetings, and perceived skills gained. Statistically significant differences were found between final GPA and attitudes about instructor timely response ($F [3, 69] = 6.42, p = 0.00$). The results are contained in Appendix B, Table 63.

Interaction with advisors. ANOVAs were used to compare attitudes about advisor interaction to final GPA. No statistically significant results were found between final GPA and attitudes about advisor assistance or timely responses of advisors. Results are indicated in Appendix B, Table 63.

Interaction with cohort members. ANOVA analyses were performed comparing final GPA to student attitudes about whether interaction with cohort members. A slightly statistically significant difference was found between final GPA and attitudes about cohort support ($F [1, 71] = 2.33, p = 0.04$) as reflected in Appendix B, Table 63. The final GPAs of those who indicated that cohort support was not important ($M=3.62, SD=0.05$) and the final GPAs of those who indicated that cohort support was influential in persistence within the program ($M=3.75, SD=0.03$) have variance. An additional ANOVA was used to compare final GPA to the responses related to whether participants would recommend the program to others and no statistically significant differences were found. The results are contained in Appendix B, Table 63.

Praxis II Scores

Interaction with instructors. ANOVA was used to compare student attitudes about interactions with instructors to Praxis II scores. No statistically significant differences were found between Praxis II scores and attitudes about faculty support, timely response of instructors, helpfulness of face to face meetings, and perceived skills gained. The results are outlined in Appendix B, Table 64 and 65.

Interaction with advisors. ANOVAs were used to compare student attitudes about advisor interaction and Praxis II scores. No statistically significant differences resulted between Praxis II scores and attitudes about advisor assistance and advisor timely response. The results are outlined in Appendix B, Table 64 and 65.

Interaction with cohort members. ANOVA analyses were performed to compare student attitudes about interaction with cohort members to Praxis II scores. No statistically significant differences between Praxis II scores and student attitudes about cohort support and recommendation rates were found. The results are outlined in Appendix B, Table 64 and 65.

Analyses of Student Characteristics and Attitudes about Academic Integration

As a part of the exploratory analyses within the study, the student demographic characteristics were investigated to uncover if any relationships exist between student characteristics and their attitudes about academic integration within the 2+2 university center teacher education program. The demographic characteristics of major, gender, race, age, work status, work status within a public school, connection to military, rural status, and funding source were tested against the survey questions related to instruction received, advising received, program structure, and other support. The subsequent paragraphs outline the exploratory analyses completed. Table 16 provides a comprehensive representation of overall ratings for

Table 16

Demographic Characteristics to Overall Academic Integration Attitudes

Demographic Characteristic	Overall Instruction Mean(SD)	Overall Advising Mean(SD)	Overall Support Mean(SD)
<i>Major</i>			
Elementary	4.38(.64)	4.57(.06)	3.34(.06)
Middle Grades	4.03(.71)	4.74(.12)	3.09(.13)
Special Education	4.22(.74)	4.37(.10)	3.18(.11)
ANOVA P-value	0.01*	0.06	0.12
<i>Gender</i>			
Male	4.24(.17)	4.65(.18)	3.25(.18)
Female	4.31(.04)	4.55(.05)	3.28(.05)
ANOVA P-value	0.68	0.06	0.88
<i>Race</i>			
African American	4.50(.17)	4.56(.19)	3.53(.19)
Caucasian	4.29(.04)	4.56(.05)	3.26(.05)
Other	4.29(.26)	4.29(.28)	3.17(.30)
ANOVA P-value	0.48	0.90	0.35
<i>Age Range</i>			
20-29	4.18(.08)	4.68(.08)	3.22(.08)
30-39	4.29(.07)	4.52(.08)	3.25(.08)
40-49	4.45(.09)	4.59(.10)	3.39(.10)
50-59	4.37(.13)	4.23(.14)	3.30(.14)
ANOVA P-value	0.13	0.06	0.60
<i>Work Status</i>			
Work Full Time	4.35(.06)	4.54(.06)	3.35(.06)
Work Part Time	4.32(.09)	4.61(.10)	3.21(.10)
Do Not Work	4.16(.09)	4.53(.10)	3.17(.10)
ANOVA P-value	0.17	0.82	0.24
<i>Public School Work Capacity</i>			
Work for Public Schools	4.39(.06)	4.51(.06)	3.31(.06)
Do Not Work for Public Schools	4.19(.06)	4.61(.07)	3.23(.07)
ANOVA P-value	0.02*	0.28	0.42

Table 16 (continued)

<i>Connection to Military</i>			
Not Connected	4.30(.05)	4.60(.05)	3.30(.05)
Retired Military	4.43(.26)	4.43(.28)	3.57(.28)
Spouse of Active Duty	4.43(.26)	4.88(.26)	2.90(.28)
Spouse of Retired Military	4.00(.40)	4.33(.43)	2.70(.42)
Dependent of Military	4.40(.31)	4.60(.33)	3.00(.37)
Other Connection	4.20(.31)	4.00(.33)	3.00(.33)
ANOVA P-value	0.94	0.44	0.23
 <i>Home County Designation</i>			
Rural	4.23(.50)	4.53(.05)	3.30(.05)
Urban	4.37(.09)	4.64(.09)	3.21(.09)
ANOVA P-value	0.39	0.31	0.44
 <i>Funding- Own Income</i>			
No	4.23(.06)	4.50(.07)	3.28(.07)
Yes	4.40(.06)	4.60(.06)	3.28(.06)
ANOVA P-value	0.13	0.29	0.97
 <i>Funding- Financial Aid/Loan</i>			
No	4.41(.10)	4.53(.10)	3.37(.10)
Yes	4.27(.05)	4.56(.05)	3.25(.05)
ANOVA P-value	0.19	0.79	0.34

Note. *p=<0.05.

instruction received, advising received, and other support by each demographic characteristic. This table will be referenced throughout this particular results section related to student attitudes about academic integration.

Major

Instruction received. Chi square tests were completed comparing major to the survey questions related to instruction received. No statistically significant differences were found between major and attitudes about the effectiveness of instruction ($\chi^2 (6, N=261) = 7.46, p=0.28$). Slightly significant differences were found between major and attitudes about knowledge about teaching diverse students ($\chi^2 (8, N=261) = 18.28, p=0.02$) and English as a Second Language students ($\chi^2 (8, N=261) = 21.27, p=0.01$). However, this significance should be viewed with caution as 20% of the cell counts for the non-reported responses were below 5. An ANOVA test was used to compare major to the rating of overall instruction (1=Poor, 5=Outstanding). A statistically significant relationship was found between major and overall instruction ($F [2,253] = 4.33, p = 0.01$). Table 16 outlines the overall instruction ratings with means and standard deviations for each major on this measure. The paired *t* tests indicated variance between the elementary and middle grades subgroups. Middle grades students rated overall instruction lower than elementary students. Appendix B, Table 66 indicates the ANOVA results for major compared to overall instruction.

Advising received. The variables related to advising were analyzed as well in comparison to major. No statistically significant differences were found between major and overall advising ($F [2, 254] = 2.77, p = 0.06$) as displayed in Appendix B, Table 66 with the means and standard deviations for overall advising displayed in Table 16.

Program structure. Chi square tests comparing major to attitudes about program structure were used. Statistically significant differences were between major and attitudes about convenience ($\chi^2 [2, N=261] = 7.61, p=0.02$), and delivery mode ($\chi^2 [8, N=261] = 20.31, p=0.01$). However, 20% of the cell counts for not reported in these categories are less than 5 such that the chi square is suspect. No statistically significant differences were between major and amount of classes within the program ($\chi^2 [6, N=261] = 8.93, p=0.17$).

Other support. Chi square tests comparing major to attitudes about other support. No statistically significant differences were found between major and attitudes about tutorials ($\chi^2 [8, N=261] = 7.77, p=0.46$); hardware/software support ($\chi^2 [6, N=261] = 9.46, p=0.15$); usefulness of the WPE website ($\chi^2 [8, N=261] = 6.42, p=0.60$); and technology tools ($\chi^2 [6, N=261] = 4.82, p=0.57$). ANOVA was used to compare major to on the rating of overall support. No statistically significant difference was found between major and overall support ($F [2,243] = 2.18, p = 0.11$) as displayed in Appendix B, Table 66 with the means and standard deviations for each major listed in Table 16.

Gender

Instruction received. Chi square tests were used to compare gender to student attitudes about instruction received. No statistically significant differences were found between gender and attitudes about the effectiveness of instruction ($\chi^2 [3, N=261] = 6.02, p=0.11$); knowledge about teaching diverse students ($\chi^2 [4, N=261] = 2.01, p=0.73$); and knowledge about English as a Second Language students ($\chi^2 [4, N=261] = 2.84, p=0.59$). An ANOVA test was used to compare gender to the rating of overall instruction. No statistically significant was found between gender and overall instruction ratings ($F [1,254] = 0.17, p = 0.68$) as indicated in

Appendix B, Table 67. Table 16 outlines the overall instruction ratings with means and standard deviations for each gender on this measure.

Advising received. Chi square tests were used to compare gender to attitudes about advising. No significant differences were found between gender and attitudes about the amount of advising ($\chi^2 [4, N=261] = 0.75, p=0.94$). An ANOVA was used to compare gender to overall advising. No statistically significant difference was found between gender and overall advising ($F [1,255] = 0.30, p = 0.59$) as indicated in Appendix B, Table 67 with the means and standard deviations for overall advising displayed in Table 16.

Program structure. Chi square tests comparing gender to attitudes about program structure were conducted. No statistically significant differences were found between gender and attitudes about convenience ($\chi^2 (1, N=261) = 1.00, p=0.32$); amount of classes within the program ($\chi^2 [3, N=261] = 1.14, p=0.77$), and delivery mode ($\chi^2 [4, N=261] = 8.01, p=0.09$).

Other support. Chi square tests were used to compare gender to attitudes about other support. No statistically significant differences were found between gender and attitudes about tutorials ($\chi^2 [4, N=261] = 5.75, p=0.21$); hardware/software support ($\chi^2 [3, N=261] = 1.14, p=0.11$); usefulness of the WPE website ($\chi^2 [4, N=261] = 0.75, p=0.94$), and technology tools ($\chi^2 [3, N=261] = 1.56, p=0.67$). An ANOVA was used to compare gender to overall support. No statistically significant differences were found between gender and overall support ($F [1,244] = 0.02, p = .88$) as indicated in Appendix B, Table 67 with the means and standard deviations for each gender listed in Table 16.

Race

Instruction received. Chi square tests were used to compare race to the attitudes about instruction received. No significant differences were found between Race and attitudes about

effectiveness of instruction ($\chi^2 [6, N=261] = 24.51, p=0.11$) and knowledge about teaching diverse students ($\chi^2 [8, N=261] = 56.38, p=0.10$) and English as a Second Language students ($\chi^2 [8, N=261] = 62.89, p=0.10$). An ANOVA test was performed comparing race to the rating of overall instruction. No statistically significant difference was found between race and overall instruction ($F [2,253] = .073, p = .048$) as indicated in Appendix B, Table 68. Table 16 outlines the overall instruction ratings with means and standard deviations for each Race on this measure.

Advising received. An ANOVA was used to compare race to overall advising. No statistically significant differences were found between race and overall advising ($F (2,254) = .10, p = 0.90$) as indicated in Appendix B, Table 68 with the means and standard deviations for overall advising displayed in Table 16.

Program structure. Chi square tests comparing race to attitudes about program structure. No statistically significant differences were found between race and attitudes about convenience ($\chi^2 [2, N=261] = 11.89, p=0.20$); amount of classes within the program ($\chi^2 [6, N=261] = 31.40, p=0.10$); or delivery mode ($\chi^2 [8, N=261] = 94.89, p=0.10$).

Other support. Chi square tests were used to compare race to attitudes about other support. No significant differences were found between race and attitudes about tutorials ($\chi^2 [8, N=261] = 24.89, p=0.10$). Slightly statistically significant differences were found between Race and attitudes about hardware/software support ($\chi^2 [6, N=261] = 57.70, p=0.04$), usefulness of the WPE website ($\chi^2 [8, N=261] = 43.96, p=0.03$), and technology tools ($\chi^2 [6, N=261] = 48.83, p=0.04$). However, 20 % of the cell counts in the non-report subgroup for this analysis fall below 5 and as such the chi square statistic is suspect. An ANOVA was used to compare race to overall support. No statistically significant difference was found between race and overall support (F

[2,243] = 1.01, $p = 0.36$) as indicated in Appendix B, 68 with the means and standard deviations for each race listed in Table 16.

Age

Instruction received. Chi square tests were completed comparing age to attitudes about instruction received. No statistically significant differences were found between age and attitudes about the effectiveness of instruction (χ^2 [9, $N=261$] = 5.97, $p=0.74$) and knowledge about teaching diverse students (χ^2 [12, $N=261$] = 16.75, $p=0.15$) and English as a Second Language students (χ^2 [12, $N=261$] = 13.38, $p=0.34$). An ANOVA test was used to compare age to the rating of overall instruction. No statistically significant difference was found between age and overall instruction (F [3, 252] = 1.90, $p= 0.13$) as indicated in Appendix B, Table 69. The mean and standard deviation for each age group listed in Table 16.

Advising received. An ANOVA was used to compare age to overall advising. No statistically significant difference was found between age and overall advising (F [3,253] = 2.54, $p = 0.06$) as indicated in Appendix B, Table 69 with the means and standard deviations for overall advising displayed in Table 16.

Program structure. Chi square tests comparing age to attitudes about program structure. No statistically significant differences were found between age and attitudes about convenience (χ^2 [3, $N=261$] = 7.89, $p=0.05$); amount of classes within the program (χ^2 [9, $N=261$] = 6.11, $p=0.73$), or delivery mode (χ^2 [12, $N=261$] = 7.39, $p=0.83$).

Other support. Chi square tests comparing age to attitudes about other support. No statistically significant differences were found between age and attitudes about tutorials (χ^2 [12, $N=261$] = 11.24, $p=0.51$); hardware/software support (χ^2 [9, $N=261$] = 7.41, $p=0.59$); usefulness of the WPE website (χ^2 [12, $N=261$] = 19.35, $p=0.08$); or technology tools (χ^2 [9, $N=261$] =

13.22, $p=0.15$) were completed and yielded p values above $p < 0.05$. An ANOVA was used to compare age to overall support. No statistically significant differences were found between age and overall support ($F[3,242] = 0.62, p = 0.60$) as indicated in Appendix B, Table 69 with the means and standard deviations for each age range listed in Table 16.

Work Status

Instruction received. Chi square tests were completed comparing work status instruction received. No statistically significant differences were found between work status and attitudes about effectiveness of instruction ($\chi^2 [9, N=261] = 55.53, p=0.40$); and knowledge about teaching diverse students ($\chi^2 [12, N=261] = 201.36, p=0.07$); and English as a Second Language students ($\chi^2 [12, N=261] = 210.33, p=0.07$). An ANOVA test was performed comparing work status to the rating of overall instruction. No statistically significant difference was found between work status and overall instruction ($F [2, 254] = 1.77, p = 0.17$) and reflected in Appendix B, Table 70. Table 16 outlines the overall instruction ratings with means and standard deviations for work status.

Advising received. Attitudes about the amount of advising to work status were tested with a chi square test. No statistically significant difference was found between work status and amount of advising ($\chi^2 [12, N=261] = 132.60, p=0.06$). An ANOVA was used to compare work status to overall advising. No statistically significant difference was found between work status and overall advising ($F [2, 254] = 0.20, p = 0.82$) as reflected in Appendix B, Table 70 with the means and standard deviations for overall advising displayed in Table 16.

Program structure. Chi square tests were used to compare work status to attitudes about program structure. No statistically significant differences were found between work status and attitudes about convenience ($\chi^2 [3, N=258] = 49.48, p=0.17$); amount of classes within the

program ($\chi^2 [9, N=258] = 118.87, p=0.09$); and delivery model ($\chi^2 [12, N=258] = 266.70, p=0.08$) when the not reported responses were pulled out of the analyses.

Other support. Chi square tests used to compare work status to attitudes about other support. No statistically significant differences were found between work status and attitudes about tutorials ($\chi^2 [12, N=258] = 87.90, p=0.05$); hardware/software support ($\chi^2 [12, N=258] = 197.04, p=0.07$); usefulness of the WPE website ($\chi^2 [12, N=258] = 116.08, p=0.06$); and technology tools ($\chi^2 [12, N=258] = 160.37, p=0.06$) when the not reported responses were pulled out of the analyses. An ANOVA was used to compare work status to overall support. No statistically significant differences resulted between work status and overall support ($F[2,253] = 1.44, p = 0.24$) as reflected in Appendix B, Table 70 with the means and standard deviations for each work status listed in Table 16.

Work at Public School

Instruction received. Chi square tests were used to compare public school work status to attitudes about instruction received. No statistically significant differences resulted between public school work status and attitudes about effectiveness of instruction ($\chi^2 [3, N=261] = 1.92, p=0.59$); and knowledge about teaching diverse students ($\chi^2 [4, N=261] = 6.23, p=0.18$); and English as a Second Language students ($\chi^2 [4, N=261] = 16.71, p=0.20$). An ANOVA test was performed to compare work within a public school to the rating of overall instruction. A slightly significant difference was found between public school work status and overall instruction ($F(1, 254) = 5.77, p = 0.02$) as indicated in Appendix B, Table 71. Table 16 outlines the overall instruction ratings with means and standard deviations for public school work status. Those that work for public schools difference significantly in their ratings of overall instruction as compared to those not employed in public schools.

Advising received. Chi square tests were used to compare public school work status to attitudes about advising received. No statistically significant difference was found between public school work status and attitudes about the amount of advising ($\chi^2 [4, N=261] = 5.45, p=0.24$). An ANOVA was used to compare public school work status to overall advising and no statistically significant differences was found between public school work status and overall advising ($F [1, 255] = 0.54, p = 0.20$) as indicated in Appendix B, Table 71 with the means and standard deviations for overall advising displayed in Table 16.

Program structure. Chi square tests comparing public school work status to attitudes about program structure. No statistically significant differences were found between public school work status and attitudes about convenience ($\chi^2 [1, N=261] = 3.56, p=0.06$); amount of classes within the program ($\chi^2 [3, N=261] = 5.91, p=0.12$); and delivery mode ($\chi^2 [4, N=261] = 4.59, p=0.33$).

Other support. An ANOVA was used to compare public school work status to overall support. No statistically significant differences resulted between public school work status and overall support ($F [1, 244] = 0.66, p = 0.42$) as indicated in Appendix B, Table 71 with the means and standard deviations for each public school work status listed in Table 16.

Connection to Military

Instruction received. Chi square tests were completed comparing connection to military to instruction received. No statistically significant differences resulted between connection to military and attitudes about effectiveness of instruction ($\chi^2 [15, N=261] = 9.10, p=0.87$); and knowledge about teaching diverse students ($\chi^2 [20, N=261] = 19.50, p=0.49$); and English as a Second Language students ($\chi^2 [20, N=261] = 6.94, p=0.99$). An ANOVA test was performed to compare connection to military to overall instruction. No statistically significant difference was

found between connection to military to overall instruction ($F [5, 250] = 0.26, p = 0.94$) as indicated in Appendix B, Table 72 .Table 16 outlines the overall instruction ratings with means and standard deviations.

Advising received. A chi square test was used to compare connection to military to attitudes about the amount of advising. No statistically significant differences were found between connection to military and amount of advising ($\chi^2 [20, N=261] = 12.51, p=0.90$). An ANOVA was used to compare connection to military to overall advising. Overall no statistically significant difference was found between connection to military and overall advising ($F (5, 251) = 0.96, p = 0.44$) as indicated in Appendix B, Table 72 with the means and standard deviations for overall advising displayed in Table 16.

Program structure. Chi square tests comparing connection to military to attitudes about program structure were conducted. No statistically significant differences were found between connection to military and attitudes about convenience ($\chi^2 [5, N=261] = 2.23, p=0.81$); amount of classes within the program ($\chi^2 [15, N=261] = 9.74, p=0.84$); and delivery mode ($\chi^2 [20, N=261] = 5.83, p=1.00$).

Other support. Chi square tests comparing connection to military to attitudes about other support were conducted. No statistically significant differences were found between attitudes about tutorials ($\chi^2 [20, N=261] =7.80, p=0.99$); hardware/software support ($\chi^2 [15, N=261] = 17.25, p=0.30$); usefulness of the WPE website ($\chi^2 [20, N=261] = 16.15, p=0.71$); and technology tools ($\chi^2 [15, N=261] = 4.92, p=0.99$). An ANOVA was used to compare connection military to overall support. No statistically significant differences resulted between connection to military and overall support ($F [5, 240] = 1.40, p = 0.23$) as indicated in Appendix B, Table 72 with the means and standard deviations for each connection to the military listed in Table 16.

Rural Designation

Instruction received. Chi square tests were completed comparing the rural designation of the students' home county to instruction received. No statistically significant difference were found between rural designation and attitudes about effectiveness of instruction ($\chi^2 [3, N=261] = 0.22, p=0.97$); and knowledge about teaching diverse students ($\chi^2 [4, N=261] = 2.08, p=0.72$); and English as a Second Language students ($\chi^2 [4, N=261] = 1.57, p=0.82$). An ANOVA test was performed comparing the rural designation to the rating of overall instruction. No statistically significant differences were found between rural designation and overall instruction ($F [1, 254] = 0.35, p = 0.39$) and are reflected in Appendix B, Table 73. Table 16 outlines the overall instruction ratings with means and standard deviations.

Advising received. A chi square was used to compare rural designation and attitudes about amount of advising. No statistically significant differences were found between rural designation and attitudes about the amount of advising ($\chi^2 [4, N=261] = 7.39, p=0.12$). An ANOVA was used to compare rural designation to overall advising. No significant difference was yielded between rural designation and overall advising ($F(1, 255) = 1.04, p = 0.31$) as reflected in Appendix B, Table 73 with the means and standard deviations for overall advising displayed in Table 16.

Program structure. Chi square tests were used to compare the rural designation of the students' home county to attitudes about program structure. No statistically significant differences were found between rural designation and attitudes about convenience ($\chi^2 [1, N=261] = 0.27, p=0.60$); amount of classes within the program ($\chi^2 [3, N=261] = 2.76, p=0.45$); and delivery mode ($\chi^2 [4, N=261] = 1.93, p=0.75$).

Other support. Chi square tests were used to compare the rural designation of the students' home county to attitudes about other support. No statistically significant differences were found between rural designation and attitudes about tutorials (χ^2 [4, $N=261$] = 9.13, $p=0.06$); hardware/software support (χ^2 [3, $N=261$] = 4.12, $p=0.25$); usefulness of the WPE website (χ^2 [4, $N=261$] = 3.63, $p=0.46$); and technology tools (χ^2 [3, $N=261$] = 2.38, $p=0.50$). An ANOVA was used to compare rural designation and overall support with no significant difference found between rural designation and overall support (F [1, 244] = 0.60, $p = 0.44$) as reflected in Appendix B, Table 73 with the means and standard deviations for each designation listed in Table 16.

Funding

Instruction received. Chi square tests were utilized to compare funding sources to instruction received. No statistically significant differences were found between funding sources and attitudes about the effectiveness of instruction (χ^2 [3, $N=261$] = 6.52, $p=0.09$) and knowledge about teaching diverse students (χ^2 [4, $N=261$] = 4.03, $p=0.40$) and English as a Second Language students (χ^2 [4, $N=261$] = 4.08, $p=0.39$). An ANOVA test was performed comparing funding source to the rating of overall instruction. No statistically significant difference resulted between overall instruction and funding with own income (F [1, 254] = 2.27, $p = 0.13$) or funding with financial aid/loan (F [1, 255] = 1.70, $p = 0.19$) for as indicated in Appendix B, Tables 74 and 75. Table 16 outlines the overall instruction ratings with means and standard deviations.

Advising received. Attitudes about the amount of advising to the funding sources were tested with a chi square test. No statistically significant differences were found between funding and amount of advising (χ^2 [4, $N=261$] = 4.41, $p=0.35$). An ANOVA was used to compare

funding source and overall advising. No statistically significant findings were found between overall advising and funding with own income ($F [1, 255] = 1.13, p = 0.28$) or funding with financial aid/loan ($F [1, 255] = 0.71, p = 0.79$) as indicated in Appendix B, Tables 74 and 75 with the means and standard deviations within each funding category for overall advising displayed in Table 16.

Program structure. Chi square tests comparing funding with own income and funding with financial aid/loans to program structure were conducted. No significant differences were found between funding source and attitudes about convenience ($\chi^2 [1, N=261] = 3.83, p=0.05$); amount of classes within the program ($\chi^2 [3, N=261] = 1.15, p=0.77$); and delivery model ($\chi^2 [4, N=261] = 2.95, p=0.57$).

Other support. Chi square tests were used to compare funding sources to attitudes about other support. No statistically significant differences were found between funding source and attitudes about tutorials ($\chi^2 [4, N=261] = 7.81, p=0.09$); hardware/software support ($\chi^2 [3, N=261] = 4.28, p=0.23$); usefulness of the WPE website ($\chi^2 [4, N=261] = 4.55, p=0.33$); and technology tools ($\chi^2 [3, N=261] = 1.28, p=0.73$). ANOVA was used to compare funding source to overall support. No statistically significant differences were found between overall support and funding with own income ($F [1, 244] = 0.01, p = 0.97$), or funding with financial aid/loans ($F [1, 244] = 0.93, p = 0.34$) for with the means and standard deviations for each funding source listed in Table 16.

Analyses of Student Characteristics and Attitudes about Social Integration

In addition an exploration of student characteristics as compared to their attitudes about academic integration, the attitudes about social integration within the 2+2 university center teacher education program were investigated. The student demographic characteristics of major,

gender, race, age, work status, public school work status, connection to military, rural designation and funding sources used were compared to attitudes about interaction with instructors, interactions with advisors, and interaction with cohort members or fellow classmates. Each of the analyses completed are outlined in the subsequent paragraphs. Table 17 includes those comparisons that were found to be significant within the tests completed on each demographic variable.

Major

Interaction with instructors. Chi square tests were used to compare major with attitudes about instructor interaction. No statistically significant differences were found between major and attitudes about faculty support ($\chi^2 [2, N=261] = 0.20, p=0.90$); the timely response by instructors ($\chi^2 [8, N=261] = 11.74, p=0.16$); the usefulness of face to face meetings ($\chi^2 [8, N=261] = 9.07, p=0.34$); and perceived effectiveness as a novice ($\chi^2 [8, N=261] = 6.54, p=0.59$).

Interaction with advisors. Major was compared to student attitudes about advisor interaction using chi square tests. No statistically significant differences were found between major and timely response of advisor ($\chi^2 [8, N=261] = 13.40, p=0.09$) or advisor assistance ($\chi^2 [2, N=261] = 3.98, p=0.14$).

Interaction with cohort members. Using a chi square analysis, major was compared to whether or not a student indicated that support from classmates or cohort members was influential for continued persistence and whether or not they would recommend the program to

Table 17

Demographic Characteristic by Influential Factor for Persistence

Demographic Characteristic		Influential Factor for Continued Participation		
		Assistance from WPE Advisor		
	Gender	No	Yes	<i>p</i> **
Male		0.00%	100.00%	0.04
Female		20.49%	79.51%	
Overall		19.16%	80.84%	
		Support from classmate/cohort members		
	Race	No	Yes	<i>p</i> **
African American		25.00%	75.00%	0.03
Caucasian		30.64%	69.36%	
Other		70.00%	30.00%	
Overall		31.80%	68.20%	
		Faculty Support		
	Age Range	No	Yes	<i>p</i> **
20-29		56.10%	43.90%	0.00
30-39		54.84%	45.16%	
40-49		28.81%	71.19%	
50-59		40.74%	59.26%	
Overall		47.89%	52.11%	
	Work Status	No	Yes	<i>p</i> *
Work for Public Schools		40.43%	59.57%	0.01
Do Not Work for Public Schools		56.67%	43.33%	
Overall		47.89%	52.11%	

Note. *Fisher's Exact Test-2 Tail; **Chi Square; $p < 0.05$.

others. No statistically significant difference was found between major and cohort support (χ^2 [2, $N=261$] = 3.31, $p=0.19$), or recommendation to others (χ^2 (8, $N=261$) = 21.16, $p=0.01$).

Gender

Interaction with instructors. Chi square test were used to compare gender with attitudes about instructor interaction. No statistically significant differences were found between gender and student attitudes about the timely response by instructors (χ^2 [4, $N=261$] = 2.42, $p=0.65$); the usefulness of face to face meetings (χ^2 [4, $N=261$] = 2.12, $p=0.71$); and perceived effectiveness as a novice (χ^2 [4, $N=261$] = 6.81, $p=0.15$). Non-significant differences were also found when gender was compared to student attitudes about faculty support χ^2 [1, $N=261$] = 1.16, $p=0.28$).

Interaction with advisors. Gender was compared to student attitudes about the timely response of the WPE advisor using a chi square. No statistically significant difference was found between gender and attitudes about timely response (χ^2 [4, $N=261$] = 2.29, $p=0.68$). In addition, gender was compared to whether or not students felt the WPE advisor's assistance was an influential factor for continued persistence. A statistically significant difference resulted between gender and assistance from advisor (χ^2 [1, $N=261$] = 4.31, $p=0.04$). Table 17 indicates percentages by gender of respondents who felt assistance from an advisor was influential in their continued persistence or not. All males viewed assistance from an advisor as influential for their persistence in comparison to 79.51% of females.

Interaction with cohort members. Using a chi square analysis, gender was compared to whether or not a student indicated that support from classmates or cohort members was influential for continued persistence. No statistically significant difference was found between

gender and cohort support ($\chi^2 [1, N=261] = 1.95, p=0.16$). No statistically significant difference was found between gender and recommendation to others ($\chi^2 [4, N=261] = 3.99, p=0.41$).

Race

Interaction with instructors. Chi square tests were used to compare Race and attitudes about instructor interaction. No statistically significant differences were found between Race and student attitudes about the timely response by instructors ($\chi^2 [8, N=261] = 33.36, p=0.08$); the usefulness of face to face meetings ($\chi^2 [8, N=261] = 35.92, p=0.08$); perceived effectiveness as a novice ($\chi^2 (8, N=261) = 79.97, p=0.07$); and faculty support as an influential factor ($\chi^2 [2, N=261] = 1.28, p=0.53$).

Interaction with advisors. Race was compared to student attitudes about instructor interaction. No statistically significant differences were found between Race and student attitudes about the timely response of the advisor ($\chi^2 [8, N=261] = 33.35, p=0.14$) and advisor assistance as an influential factor for continued persistence ($\chi^2 [2, N=261] = 4.53, p=0.10$).

Interaction with cohort members. Using a chi square analysis, Race was compared to whether or not a student indicated that support from classmates or cohort members was influential for continued persistence. A statistically significant difference was found between Race and attitudes about cohort support ($\chi^2 [2, N=261] = 7.22, p=0.03$). Table 17 indicates the percentages of those students who felt cohort support was influential in continued persistence. To note, 75% African American students indicated that cohort support was important.

Age

Interaction with instructors. Chi square tests were used to compare age to attitudes about instruction interaction. No statistically significant differences resulted between age and student attitudes about the timely response by instructors ($\chi^2 [12, N=261] = 8.05, p=0.78$); the

usefulness of face to face meetings ($\chi^2 [12, N=261] = 8.65, p=0.73$); and perceived effectiveness as a novice ($\chi^2 [12, N=261] = 7.30, p=0.83$). Age was also compared to student attitudes about faculty support as an influential factor for continued persistence. A statistically significant difference was found between age and faculty support ($\chi^2 [3, N=261] = 13.17, p=0.00$). Table 17 indicates the percentages by age range for this test. To note, 75.19% of students in the age range 40-49 and 59.26% of students in the age range of 50-59 indicated that faculty support was influential in their continued persistence. These percentages are significantly higher than those in the younger age ranges.

Interaction with advisors. Chi square tests were used to compare age with attitudes about interaction with advisors. No statistically significant differences were found between age and student attitudes about the timely response of the WPE advisor ($\chi^2 [12, N=261] = 17.55, p=0.13$) and advisor assistance as an influential factor for continued persistence ($\chi^2 [3, N=261] = 4.31, p=0.23$).

Interaction with cohort members. Using a chi square test, age was compared to attitudes about interaction with cohort members. No statistically significant differences resulted between age and attitudes about cohort support ($\chi^2 [3, N=261] = 4.23, p=0.2$) and recommendation to others ($\chi^2 (4, N=261) = 6.70, p=0.87$).

Work Status

Interaction with instructors. Chi square tests were used to compare work status attitudes about interaction with instructors. No statistically significant differences were found between work status and student attitudes about the timely response by instructors ($\chi^2 [12, N=261] = 161.13, p=0.06$); the usefulness of face to face meetings ($\chi^2 [12, N=261] = 63.61,$

$p=0.05$); perceived effectiveness as a novice ($\chi^2 [12, N=261] = 157.99, p=0.07$); or faculty support as an influential factor for continued persistence ($\chi^2 [3, N=261] = 4.05, p=0.25$).

Interaction with advisors. Chi square tests were used to compare work status to attitudes about interaction with advisors. No statistically significant differences resulted between work status to student attitudes about the timely response of the WPE advisor ($\chi^2 [12, N=261] = 113.64, p=0.06$) or advisor assistance as an influential factor for continued persistence ($\chi^2 [3, N=261] = 15.72, p=0.05$).

Interaction with cohort members. Using a chi square analysis, work status was compared to attitudes about cohort interaction. No statistically significant differences were found between work status and attitudes about cohort support ($\chi^2 [3, N=261] = 7.43, p=0.06$) or recommendation to others ($\chi^2 [1, N=261] = 201.62, p=0.08$).

Work at Public School

Interaction with instructors. Chi square tests were used to compare public school work status to attitudes about interaction with instructors. No statistically significant differences were found between public school work status and student attitudes about the timely response by instructors ($\chi^2 [4, N=261] = 9.36, p=0.05$); the usefulness of face to face meetings ($\chi^2 [4, N=261] = 4.76, p=0.31$); and perceived effectiveness as a novice ($\chi^2 [4, N=261] = 8.86, p=0.06$). Public school work status was also compared to student attitudes about faculty support as an influential factor for continued persistence using a chi square. A statistically significant difference was found between public school work status and faculty support as a persistence factor ($\chi^2 [1, N=261] = 6.85, p=0.01$) with $p = 0.01$ on Fisher's exact 2 tail test. A Bonferroni post hoc test was performed and yielded $\alpha = .02$. A Table 17 indicates the percentages by public school work status for this test. To note, 59.57% of students who were employed within a public

school during their program indicated that faculty support was influential in their continued persistence.

Interaction with advisors. A chi square test was use to compare public school work status was compared to student attitudes about advisor interaction. No statistically significant difference was found between public school status and advisor assistance as an influential factor for continued persistence (χ^2 (4, $N=261$) = 2.50, $p=0.11$).

Interaction with cohort members. Chi square tests were used to compare public school work status to interaction with cohort members. No statistically significant differences were found between public school work status and cohort support (χ^2 [1, $N=261$] = 3.32, $p=0.0$) or recommendation to others (χ^2 [4, $N=261$] = 6.13, $p=0.19$).

Connection to Military

Interaction with instructors. Chi square tests were used to compare connection to military and attitudes about interaction with instructors. No statistically significant differences were found between connection to military and student attitudes about the timely response by instructors (χ^2 [20, $N=261$] = 24.26, $p=0.23$); the usefulness of face to face meetings (χ^2 [20, $N=261$] = 20.94, $p=0.40$); perceived effectiveness as a novice (χ^2 [20, $N=261$] = 53.50, $p=0.82$); or faculty support (χ^2 [5, $N=261$] = 3.84, $p=0.63$).

Interaction with advisors. Chi square tests were used to compare connection to military was compared to student attitudes about advisor interaction. No statistically significant differences were found between connection to military and attitudes about the timely response of the WPE advisor (χ^2 [5, $N=261$] = 6.25, $p=0.28$) or WPE advisor assistance as an influential factor for continued persistence (χ^2 [20, $N=261$] = 13.45, $p=0.85$).

Interaction with cohort members. Chi square tests were used to compare connection to military to attitudes about interaction with cohort members. No statistically significant differences were found between connection to military and cohort support ($\chi^2 [5, N=261] = 3.50, p=0.60$) or recommendation to others ($\chi^2 [20, N=261] = 37.23, p=0.06$).

Rural Designation

Interaction with instructors. Chi square tests were used to compare rural designation to attitudes about interaction with instructors. No statistically significant differences were found between rural designation and student attitudes about the timely response by instructors ($\chi^2 [4, N=261] = 2.44, p=0.65$); the usefulness of face to face meetings ($\chi^2 [4, N=261] = 1.69, p=0.79$); perceived effectiveness as a novice ($\chi^2 (4, N=261) = 2.79, p=0.59$); or faculty support as an influential factor for continued persistence ($\chi^2 [1, N=261] = 0.67, p=0.41$).

Interaction with advisors. Chi square tests were used compare rural designation to student attitudes about interaction with advisors. No statistically significant differences resulted between rural designation and attitudes about the timely response of the WPE advisor ($\chi^2 [1, N=261] = 0.12, p=0.73$), and WPE advisor assistance as an influential factor for continued persistence ($\chi^2 [4, N=261] = 4.22, p=0.38$).

Interaction with cohort members. Using a chi square analysis, rural designation was compared to student attitudes about interaction with cohort members. No statistically significant differences were found between rural designation and cohort support ($\chi^2 (4, N=261) = 0.85, p=0.3$) or recommendation to others ($\chi^2 (4, N=261) = 8.35, p=0.08$).

Funding Source

Interaction with instructors. Chi square tests were used to compare funding source with attitudes about interaction with instructors. No statistically significant differences were found

between funding source and student attitudes about the timely response by instructors (χ^2 [1, $N=261$] = 4.98, $p=0.29$); the usefulness of face to face meetings (χ^2 [4, $N=261$] = 2.11, $p=0.72$); perceived effectiveness as a novice (χ^2 [4, $N=261$] = 4.22, $p=0.37$); or faculty support as an influential factor for continued persistence (χ^2 [1, $N=261$] = 0.85, $p=0.36$).

Interaction with advisors. Chi square tests were used to compare funding source with attitudes about interaction with advisors. No statistically significant differences were found between funding source and student attitudes about the timely response of the WPE advisor (χ^2 [4, $N=261$] = 6.01, $p=0.20$), or WPE advisor assistance as an influential factor for continued persistence (χ^2 [1, $N=261$] = 0.38, $p=0.54$).

Interaction with cohort members. Using a chi square analysis, funding sources were compared to student attitudes about interaction with cohort members. A statistically significant finding was found between funding with own income and cohort support (χ^2 [1, $N=261$] = 5.84, $p=0.02$) with $p = .02$ on Fisher's exact 2 tail test. No statistically significant difference was found between funding source and would recommend to others (χ^2 (4, $N=261$) = 1.72, $p=0.79$).

In addition, within the investigation about student attitudes about social integration, an analysis of the perceptions of students regarding those factors that were important for continued persistence within the program were compared to whether or not those students who strongly agreed that they would recommend the program to other individuals. Table 18 indicates the results of this chi square analysis. Convenience of delivery offered the most significant variance within the comparison of those that would recommend the program to others and whether or not they strongly agreed that convenience was an influential factor for persistence. The number of individuals who did not feel strongly that the program was convenient ($N = 16$) is small. Faculty support as an influential factor for persistence yielded a broader distribution between those that

Table 18

Recommendation by Influential Factors

Influential factor for continued participation	Recommend Rates among Individuals				<i>p</i> *
	N	Less than Strongly Agree	N	Strongly Agree	
Support from classmates/ cohort members	83	89.16%	178	96.63%	0.02
Convenience of Delivery	16	68.75%	245	95.92%	0.00
Faculty Support	125	89.60%	136	98.53%	0.00
Faculty Who Teach Courses	207	92.75%	54	100.00%	0.04
Assistance from WPE Advisor	50	84.00%	211	96.68%	0.00

Note. *Fisher's Exact Test – 2-Tail; $p < 0.05$.

strongly agreed that this factor is important (N = 135) and those that did not strongly agree (N = 125).

However, the percentages of those who strongly agreed (98.53%) and those that did not (89.60%) but would recommend the program to others are still relatively high. Relatively high recommendation percentages from those that indicated a rating of less than strongly agree on whether or not assistance from an advisor was an influential factor yielded significant variance but not at the level of the influential factor of convenience of delivery.

Summary

The purpose of the present analysis is to understand the relationships between and among student characteristics, student attitudes, and student outcomes within a 2+2 university center for teacher education. The first grouped hypothesis stated that there is no significant relationship between student demographic characteristics and student outcome measures of 2+2 university center teacher education candidates. When focusing on the performance outcome measures of graduation, employment, grades in profession core courses, grades in Senior I and II courses, grades in reading courses, edTPA portfolio scores, and final GPA by student characteristics, there were some variance by gender, race and age. First, there were statistically significant differences in grades in the professional core and Senior I and II courses by gender, with females outperforming males in five courses. However, these results should be tempered since the small numbers of students who took retakes of courses impacted the variance overall. Second, when race was compared to Praxis II tests, with a resulting variance between African Americans and Caucasians who graduated was statistically significant. However, such results are tempered due to the small number of African American students who took Praxis II.

Finally, in looking at the student characteristics compared to performance outcomes, age generated significant variances in the outcome of graduated. Those within the 50-59 age range had a higher percentage of persistence toward graduation in comparison to other age ranges. In addition, when age was tested against overall edTPA scores, the 50-59 age range performed significantly better with the highest mean scores than all other subgroups. While this finding concurs with research on adult learners, the counts of students within the 50-59 range were smaller than any other subgroup. Overall, in comparing student demographic characteristics to performance outcomes, the findings are not robust enough due to the large number of analyses, completed such that statistically significant results may be a demonstration of false positives. The grouped null hypothesis cannot be rejected for this reason.

The second grouped null hypothesis predicted that there is no significant relationship between student attitudes about academic integration and student outcome measures of 2+2 university center teacher education candidates. Comparisons made about instruction received and the performance outcomes of graduated and employed produced significant variance between those students who graduated and those who withdrew. It is to be expected that those that withdrew may rate the instruction received lower than those who were successful toward graduation and employment. Within the comparison of advising, program structure, and other support received to grades within the professional core courses, Senior I and II courses and reading courses, a few significant findings existed. Most students received As in their coursework. However, grades below A in some courses and grades for those who retook courses bore very small counts which impacted the variance within the comparisons. By contrast, Praxis II core test scores were significantly correlated to student ratings of overall instruction and overall support. In addition, attitudes about the convenience of delivery in comparison to final

GPA yielded statistically significant results such that those who had a lower mean GPA did not feel that convenience was an influential factor for persistence ($N = 10$). While statistically significant findings occurred within the testing of the attitudes about academic integration compared to performance outcomes, a large number of tests were completed that such results may be indicative of false positive results and as such the grouped null hypothesis around these variables may not be rejected.

The third grouped null hypothesis stated that there is no significant relationship between student attitudes about social integration and student outcome measures of 2+2 university center teacher education candidates. The variables of students' attitudes about interaction with instructors, advisors and fellow cohort members were tested against performance outcomes. Variance between those students who withdrew and those who graduated existed on the attitudes about assistance from an advisor and interaction with cohort members as influential factors for persistence. However, it is to be expected that those that withdrew may be less satisfied overall and as such their ratings in these areas would be lower. Few statistically significant results were produced within the analyses of the variables about social integration and performance outcomes. As such, the grouped null hypothesis may not be rejected in this case.

Exploratory analyses were conducted to determine if any relationships existed between the student demographic characteristics and their attitudes about the program. The fourth grouped null hypothesis stated that there is no significant relationship between student demographic characteristics and student attitudes about academic integration within the 2+2 university center teacher education model. Within the analyses on student attitudes about academic integration, statistically significant findings were produced within analyses comparing age to instruction and advising received. Those students who were older (40-49 and 50-59 age

range) rated their overall instruction higher compared to those subgroups that were younger. Conversely, those at the oldest age range (50-59) rated their overall advising the lowest in comparison to the youngest age range of 20-29 years. In addition, statistically significant results were produced within the comparisons of major and public school work status to overall instruction. Middle grades majors rated their overall instruction significantly lower than elementary majors. Those students who were employed within a public school while in the program rated their overall instruction significantly higher than those who were not employed within a public school. The academic integration attitudes of instruction received generated variance across several student characteristics. Further, the demographic of age yielded significant results within the comparisons of instruction and advising received.

The final grouped null hypothesis noted that there is no significant relationship between student demographic characteristics and student attitudes about social integration within the 2+2 university center teacher education model. Statistically significant findings were produced within the examination of student characteristics in comparison to attitudes about interactions with instructors, advisors and cohort members. As indicated in Table 16, 100% of males indicated that assistance from an advisor was influential in their continued persistence in significant variance to females on this variable. Further, African Americans rated support from cohort members as an important factor for persistence in variance to other ethnicities. Faculty support as an influential factor for persistence varied significantly across the student characteristics of age and work status within the public schools. Faculty support was most important to those who were older with the 40-49 age range having the highest percentages and 50-59 age range having the second highest percentage in comparison to those in the age range of 20-29. Those students who worked

at public school while enrolled felt that faculty support was more important than those who were not employed within a public school.

Overall, convenience, instruction and advising received, as well as interaction with faculty and cohort members were most likely to produce statistically significant variance across several of the student demographic characteristics. Age and public school work status generated statistically significant variance among several of the analyses related to academic and social integration attitudes. As such the fourth and final grouped null hypotheses may be rejected. In sum, comparisons of student characteristics and their attitudes about their experiences and interactions within the 2+2 university center program are significant, demonstrating that relationships exist between demographic characteristics and attitudes about academic and social integration.

CHAPTER 5: CONCLUSIONS AND IMPLICATIONS

The issue of teacher shortages across the nation is inextricably interwoven with production and attrition of teachers. The growing population of school age children and the graying of teachers in public school classrooms who are of Baby Boomer age influence the issue of shortages. As a result of insufficient numbers of teachers to fill classrooms across the nation, institutions of higher education have been mandated by policy makers to find new pathways for teacher production. The 2+2 university center teacher education model is an alternative pathway that has been investigated for its effectiveness in the production of new teachers and its comparability to on campus programs. This study sought to examine the 2+2 university center teacher education model to ascertain those factors within the model that promote student persistence. Analyses of student demographic characteristics, student attitudes about their academic and social integration within the model, and performance outcomes were completed utilizing Tinto's (1987) theory of persistence and Wenger's (1998) *Communities of Practice* as theoretical lenses. The results of this investigation yielded viable information about the model in relation to how its components support students to persist.

To recap, this study investigated whether relationships exist between student characteristics and attitudes (about academic integration; about social integration) in comparison to performance outcomes that served as measures of academic success. In addition, the study examined student characteristics in comparison to their attitudes (about academic integration; about social integration) such that an understanding of those factors that motivate students to persist toward degree completion could be ascertained. Toward that end, research questions were as follows:

1. Are there any relationships between student demographic characteristics and student performance outcomes?
2. Are there any relationships between student attitudes about academic integration within the 2+2 university center teacher education model and their performance outcomes?
3. Are there any relationships between student attitudes about social integration within the 2+2 university center teacher education model and their performance outcomes?
4. Are there any relationships between the characteristics of the 2+2 university center teacher education students and their attitudes about academic integration within the 2+2 university center teacher education model?
5. Are there any relationships between the characteristics of the 2+2 university center teacher education students and their attitudes about social integration within the 2+2 university center teacher education model?

Participants in this study were drawn from the Wells Fargo Partnership East, 2+2 teacher education program. The study found that overall the convenience of the program, instruction and advising received, as well as interaction with faculty and cohort members were most likely to produce statistically significant results across several of the student demographic characteristics.

This study addresses a growing need for data on how to retain teacher education candidates in order to combat the problem of teacher shortages. The teacher shortage problem incorporates a variety of factors such that understanding the issue is a complex enterprise. Population increases at state and national levels and reduced production of teachers coupled with retention issues of veteran teachers and retirements of Baby Boomer aged teachers present an intricate web of circumstances that impact the numbers of teachers available for service in

classrooms (Hussar & Bailey, 2011; Ludwig et al., 2011; Noel-Levitz, 2007). Rural areas are hardest hit by teacher shortages due to the difficulty in enticing and retaining teachers to teach in areas that incorporate large numbers of low income students and are geographically and socially isolated (Arnold et al., 2007; Boyd et al., 2005; Collins, Hilde, & Shriver, 1993; Daniels et al., 2007; Jimerson, 2003; Locklear, 2007; Taylor, 2012).

Further, issues related to the recruitment and retention of teachers in both rural and urban areas exacerbate the teacher shortage problem (Evans, 1993; Guarina et al., 2006; Kyriacou & Coulthard, 2000; Smethem, 2007; Watt & Richardson, 2010). Recruiting new teachers in rural areas that are geographically and social isolated proves difficult for school systems. For this reason, among others, strategies to grow the region's teacher workforce, such as with 2+2 university center teacher education models, are warranted in addressing state mandates to produce more teachers (Boyd et al., 2005; Education Commission of the States, 2001; Noel-Levitz, 2007; Troumpoucis, 2004). The model was designed to provide access to teacher education degrees in geographically underserved areas such that barriers to access to include distance from a university and cost of attendance could be mitigated (Coulter & Vandal, 2007; Grady, 2005; Locklear, 2007). Prior research finds that the 2+2 university center teacher education model is comparable to traditional on campus programs within a variety of institutional-based performance measures (Locklear, Davis, & Covington, 2009; Lys et al., 2012). The effectiveness of the 2+2 university center teacher education model as a viable means for increased production of teachers has been investigated as well (King, 2011). However, specific investigations regarding the factors for persistence within the 2+2 university center teacher education model are absent from the literature, and as such, served as the focus of the current study.

Using Tinto's (1975, 1987, 1997, 2012) theoretical model of persistence, this study examined student characteristics to include gender, race, rural status, work status, public school work status, and funding sources in comparison to their attitudes about their experiences to determine if who the students are has any bearing on whether or not they succeed in doing well academically toward graduation and employment in the field. Tinto defines academic integration as involving course performance, satisfaction with coursework, understanding one's role as a student, and feeling supported within the academic environment (Draper, 2008). This study examined how students perceived the instruction, advising and support that was received as well as looked at performance outcomes that included grades in professional core and reading courses, final GPA, edTPA portfolio and Praxis II test scores. The study found minor variances between gender, race, and age in comparison to a few student performance outcomes. Females performed significantly better in four courses in comparison to males. African Americans had slightly lower performance on Praxis II tests. However, these results are tempered by very small counts of males and African Americans within the sample studied. In addition, when age was compared to ed TPA scores, those students in the oldest age subgroup of 50-59 years performed better than their younger counterparts.

In addition, Tinto (1975, 1987, 1997, 2012) posits that social integration to include relationships with peers and faculty are important to foster persistence in college. Analyses regarding communication and interactions with faculty, advisors and cohort members were incorporated into the present study to determine if Tinto's ideas held true for those who participated in the 2+2 university center teacher education model. Coupled with this idea of social integration, Wenger's (1998) *Communities of Practice* served as an additional theoretical lens to determine if interactions with advisors housed at the community college sites and cohort

members impacted student motivation to persist toward degree completion. This study found that support from an advisor was more important to those students in the youngest age subgroup of 20-29 years in comparison to those in the oldest age subgroup of 50-59 years. Males viewed support from an advisor as significantly more important than females. This study found that support from cohort members to include social interaction was more important to African American students than other races. In addition, support from faculty members was found to be most beneficial to older students and those who were employed within public schools.

To guide my analysis, 5 grouped null hypotheses corresponding to the 5 research questions were employed. The result of this analysis is summarized below.

Grouped Null Hypothesis 1

The first grouped null hypothesis indicated that there is no significant relationship between student demographic characteristics and student outcome measures of 2+2 university center candidates. Eleven student characteristics were defined as: major, gender, race, age, work status, work status within the public schools, connection to military, educational funding used, rural designation of the home county of residence of the student, entry GPA, and Praxis I entrance scores. These characteristics were compared to 7 student outcome measures to include: graduation, employment after graduation, grades in professional core courses, grades in reading courses, overall edTPA scores, final GPA, and Praxis II scores. There was variance by gender in comparison to grades in professional core courses but were tempered due to the small counts of individuals who retook courses. The analysis of age yielded a statistically significant outcome in comparison to edTPA scores for the age range of 50-59 in comparison to the other age ranges. Overall, due to the large volume of statistical tests performed comparing the student demographic characteristics and performance outcomes, resulting statistically significant

findings may be a demonstration of false positive results and as such, this grouped null hypothesis may not be rejected.

Grouped Null Hypothesis 2

The second grouped null hypothesis stated that there is no significant relationship between student attitudes about academic integration and student outcome measures of 2+2 university center teacher education candidates. Five variables related to student attitudes about academic integration were compared to the seven student performance outcome variables. Student attitudes about academic integration included attitudes about: instruction received; support from instructors; advising received; program structure; and other support received. Comparisons of attitudes about advising, program structure and other support received with grades in professional core and reading courses yielded a few statistically significant findings. Differences were found between students receiving an A and students receiving other grades or retaking a course. However, small counts of grades below an A in some courses and for those who retook courses affect the interpretation of the results. The overwhelming number of A grades awarded may speak to other issues such as grade inflation. A comparison of the grades of the 2+2 university center students to on campus students is warranted to determine if, indeed, this issue is only of grade inflation or perhaps differences in approaches to teaching within different programs. Additional results comparing final GPA to convenience of delivery resulted in variance such that those who had a lower GPA did not feel that convenience was an influential factor for persistence. While statistically significant findings resulted, the large volume of tests implemented comparing attitudes about academic integration and performance outcomes temper the significance of those findings as they may be a result of false positive results. This grouped null hypothesis may not be rejected for this reason.

Grouped Null Hypothesis 3

The third grouped null hypothesis stated that there is no significant relationship between student attitudes about social integration and student outcome measures of 2+2 university center teacher education candidates. The three variables about student attitudes about social integration were compared to the seven student performance outcomes variables. Student attitudes about social integration included attitudes about: communication and interaction with instructors; communication and interaction with advisors; and support from classmates. Perceptions about interaction with advisors and cohort members were rated significantly lower by those students that withdrew. However, the small count for those who withdrew tempers the statistically significant findings. The third grouped null hypothesis may not be rejected.

Grouped Null Hypothesis 4

The fourth grouped null hypothesis noted that there is no significant relationship between student demographic characteristics and student attitudes about academic integration within the 2+2 university center teacher education model. The 11 student characteristic variables were compared to the four variables regarding student attitudes about academic integration. This exploratory analysis yielded statistically significant results across several areas of student characteristics and attitudinal variables. In the area of overall instruction, older students (40-49 and 50-59 age ranges) rated their overall instruction higher than younger students. Students who majored in middle grades education rated their overall instruction received significantly lower than elementary majors. In addition, students who were employed in public schools while enrolled in the program rated their overall instruction significantly higher than those that were not employed in public schools. The variable of age also factored in with the analysis of advising received. Older students (50-59 age range) rated their overall advising lower than other

subgroups at a statistically significant level. Attitudes about overall instruction created a pattern of statistically significant results as did age as a student demographic characteristic. For this reason, this grouped null hypothesis should be rejected.

Grouped Null Hypothesis 5

The fifth grouped null hypothesis indicated that there is no significant relationship between student demographic characteristics and student attitudes about social integration within the 2+2 university center teacher education model. The 11 student demographic characteristic variables were compared to the three variables about student attitudes about social integration. Statistically significant results were yielded within the investigation of student characteristics in comparison to the three variables about social integration to include interaction with faculty, advisors, and cohort members. Faculty support as an influential factor for persistence produced significant results for the student characteristics of age and work status within the public schools. Faculty support includes interactions with faculty to include communication that may not be centered around classroom assignments. Older students rated faculty support as more important than the younger subgroups at a significant level. Those that worked within public schools viewed faculty support as more important than those who did not work in public schools. Further, 100% of males indicated that assistance from an advisor was an influential factor for persistence at a statistically significant level in comparison to females. African Americans rated support from cohort members as significantly more important than other races. Due to significant findings resulting across the three areas of social integration attitudes, this grouped null hypothesis may be rejected.

Conclusions and Discussion

Tinto's framework suggests that student persistence is influenced by individual student characteristics and successful integration both socially and academically (Tinto, 1997). Tinto (1997) purported that the characteristics of students when they matriculate factor into whether or not they are successful in college. In this study, student characteristics of work status, connection to military, funding sources used, rural designation, entrance GPA, and Praxis I scores, did not yield significant findings in relation to performance outcomes and attitudes about academic and social integration. However, age, race, major, and working within a public school did provide interesting results related to attitudes about academic and social integration. In particular, it seems to be the case that students who were older and employed in public schools tend to view their instruction received and interactions with faculty as more important than social interactions with advisors or cohort members. This aligns with Tinto's (1975) research on adult learners who interact primarily within the classroom setting and support gained within these interactions help students be academically integrated. For the older student and public school employees, the instruction received and interaction with faculty are paramount to their feelings of integration within the program.

Tinto (1997) defined academic integration to include performance in courses, especially for students in community colleges. Within the present study, analyses conducted with grades in professional core and reading courses did not produce significant findings. While more variance among grades received by middle grades majors existed, with students in middle grades performing slightly worse than their peers, overall students within the sample performed at a fairly homogenous level. As such, questions related to how different programs address the

learning context may be worth investigating. It would be beneficial to conduct a comparison of grades of traditional on campus students to see if comparable performance exists.

Variance by age and public school experience seems fairly consistent within this study. Older students tend to do better on the edTPA, view overall instruction received as better, and see faculty support as critical to their success as do students with greater amounts of public school experience. Other research finds non-traditional aged learners to be serious about their learning and as such, have greater engagement in the educational enterprise (Ashar & Skenes, 1993; Merriam, Cafferella, & Baumgartner, 2005; Taniguchi & Kaufman, 2005; Tinto, 1997). I believe this phenomenon is reflected in the present study. Determining whether or not it is the age or the experience of the 2+2 university center teacher education student who may be more serious about their schooling would be a useful investigation for future inquiry.

Exploratory analyses completed comparing who the students are and their attitudes about the program generated noteworthy findings that may serve to inform practice. The analyses conducted in this study generated some interesting results in relation to student attitudes about their academic and social integration. Overall of those students within the sample, the vast majority are satisfied with the 2+2 university center teacher education program as evidenced by the large percentages of “strongly agree and agree” responses on the WPE Status Survey (see Table 7). However, the following themes emerged from the results of the study.

1. Convenience is important.

Tinto (2012) notes that financial and familial concerns have a greater impact given today’s economy than he posited in his earlier research on persistence theory. For the sample within this study, convenience was seen as a significant factor for persistence. In fact, convenience of delivery rated the most statistically significant ($\chi^2 [1, N=261] = 20.47, p =$

.0009) of the influential factors for continued participation and student recommendation of the program to others. This finding aligns with Hagedorn's (2005) research that non-traditional age students are motivated by flexibility of course delivery. The 2+2 university center teacher education program incorporates a population of students who by in large work in some capacity. Grady (2005) noted that distance to a four-year institution was a barrier to obtaining a teacher education degree. Mitigating the barrier of distance by offering coursework online such that students have convenient access to the training is validated in this study. Further, P. Williams (2011) examined non-traditional students and found that the women in her qualitative study found work-family-school navigation to be a stressor and negatively impacted retention. Having convenient access to training that accommodates work and family schedules is also evident in the results of this study. In the current climate where a variety of educational platforms are available to students, it is important that the WPE 2+2 university center teacher education program continue to seek ways to maintain convenience for students. In addition, other institutions and/or majors that have 2+2 programs would benefit from examining how convenient their opportunity is if marketing to a nontraditional population is viewed as a significant pipeline for enrollment.

2. Age and working in a public school matters.

While much of the analyses comparing performance outcomes to student demographic characteristics generated insignificant results, the variance of edTPA scores by the age range of 50-59 is noteworthy. The edTPA is a valid and reliable assessment that establishes the competency of teacher education candidates. The 50-59 age range had overall mean scores significantly higher than the other age ranges. Associated with this finding is the fact that the majority of the 50-59 year olds taking the edTPA ($N=21$) were employed in public schools ($N=15$). While this is a relatively small number and replications of the study with larger samples

at this age range are recommended, being an older public school employee consistently produced a higher performance outcome within this study. If administrators of the WPE 2+2 university center teacher education model wish to enhance recruitment, then focusing on older teacher assistants may be an area for augmentation.

Within North Carolina, teacher assistants, when they complete a teacher education program, are given one year of experience on the teacher salary scale based on every two years of being a teacher assistant. An assistant who is older may have 20 years of teacher assistance experience and would be placed at the level of a 10 year teacher on the salary schedule. Having a seasoned teacher assistant who can demonstrate competency on the edTPA could serve as a motivator for promoting the 2+2 university center teacher education model with school system personnel. Given that at one time WPE had 50%+ of its students as teacher assistants and now has 30%, it may be useful to share the results of the present study and future replications with school systems as a means to prompt them to encourage their older school personnel to pursue a teacher education degree within the model.

For those students in the 40-49 age range, the overall instruction ratings generated significantly higher means in comparison to the younger subgroups. Similarly, the overall instruction ratings for those employed in public schools were significantly higher than those who were not public school employees. If one applies Tinto's (1975) idea that persistence is a result of academic integration that includes satisfaction with coursework, it is evident that those in this study who are older and those who are employed in public schools are more satisfied with the instruction received in comparison to other subgroups. Those at the older age ranges who are also employed in public schools represent 23.38% of the total sample within this study. Ensuring that older adults and school system employees within the 2+2 university center teacher education

model receive quality instruction may serve to retain these individuals within the model if one adopts Tinto's (1975) idea that academic integration impacts a student's commitment to achievement of academic goals.

Understanding which components of instruction are most important to older adults and public school employees in the program is unclear. Is it really the instruction that is better or is it the student who comes to the learning context with more life experience or experience in a school that impacts how a student perceives the content received from the university? This study does not answer these questions but certainly future research could illuminate additional information.

Addressing the issue of learning in a distance education environment provides another salient implication as it relates to non-traditional students. Within the present study, students at the 50-59 age range rated overall advising significantly lower than their younger counterparts. While these results could be caused by variance in the experience level of advisors since the range of experience of these university employees fall between one and ten years of experience, it is important to address the issue in the context of the literature. Kisker (2007), in her study of community college and university partnerships, found that social connections with university employees on community college campuses was important for retention of students. The 2+2 university center teacher education model employs university employees who are housed at the community college campus and serve as advisors for students. It is interesting that those in the oldest age range perceive their advising as less effective than other age groups. McClenney (2007) notes that designing opportunities for better engagement and support for community college and part-time students is crucial to foster persistence for these populations. Finding ways to provide better advising for the older students with the 2+2 university center model may

enhance their overall perceptions of the advising received. Understanding that the approach used for advising various age ranges may be different and the development of strategies to enhance the advising experience for the older student may be warranted.

3. Social interaction in the form of support from advisors, peers, and faculty impact persistence for a variety of student demographic subgroups.

This study sought to ascertain if student characteristics were in any way related to attitudes about social integration. Tinto (2012) purports that retention is impacted when a student has clear expectations about: “the rules, regulations, and requirements” (p. 10) of the institution and program. In the 2+2 university center model in the present study, students receive comprehensive information about the distance education program and coursework plans from their university center advisor who works with the student over a long span of time. Overall, students within WPE perceive that advising is effective. Interestingly, 100% of males within the study viewed advising as influential for their continued participation. While the number of males within the study is small, it is important to note that efforts at providing quality advising could provide the needed motivation to retain males within the program. To note, the number of males who pursue education at the institution is of similar percentage to those within the sample. While it would be important to replicate the study with a larger sample of males, program administrators would be wise to take these findings to heart and provide quality advising for males. Perhaps marketing the 2+2 university center model as one that provides extensive advising opportunities could serve as a recruitment tool for enticing more males into the teacher education programs in the model. For example, the *Call Me Mister* program at Clemson University, actively recruits males into the teaching profession by providing scholarships, academic and social supports, as well as intensive mentoring (Jones & Jenkins, 2012). It may be

beneficial to investigate the components of that program to determine if adopting those strategies would be useful for recruitment in the 2+2 university center model given that the relationship with an advisor is important on the whole to the students within this study but especially significant for males.

Wenger's (1998) *Communities of Practice* served as the micro level lens through which to view student attitudes in relationship to their connections to faculty, staff, and peers in this study. Wenger notes that learning within and outside of the formal classroom environment occurs through engagement of students with one another. Bilbro-Berry (2012) found in her qualitative study of 2+2 university center teacher education students that peer interactions and support from fellow cohort members were critical to student persistence. Within the present study, Table 7 displays that 68.20% of all respondents viewed support from cohort members as influential for their continued participation, the third highest influential factor behind convenience (93.87%) and assistance from a WPE advisor (80.84%).

Of note is that African Americans within the study indicated that support from cohort members was significantly influential in their continued persistence compared to other races. It would be prudent to examine the issue of cohort support as a motivator for persistence of African American students through additional research with a larger sample within the 2+2 university center teacher education model. Those who administer the program would be wise to attend to creating opportunities for current African American students to engage in interactions with cohort members and others enrolled in similar programs. This issue is especially true given that Drouin and Vartanian's (2010) research of online learning communities where providing opportunities for students to form connections within and outside the online classroom promoted better satisfaction among students. Concerted efforts at providing face to face and online social

networking opportunities for students within the 2+2 university model could serve to enhance persistence for African American students as well as all students enrolled within the model.

In addition to advisor interactions and cohort support being influential for the participants within the study, support from faculty members was most important to older students in the age range of 40-49 in comparison to students in the traditional age range for graduate students of 20-29. Faculty support was also important for students who were public school employees in comparison to those who were not employed in public schools. Tinto (2012) remarks that continuous dialogue with instructors enhanced social engagement thereby promoting student retention. Similarly, Cleveland-Innes (1994) found that interactions with faculty to include feedback affected non-traditional students' social integration. Both of these researchers addressed the non-traditional population, but neither focused upon a non-traditional population in an online setting. As such, the understanding that support from faculty members is important to older students and public school employees within the 2+2 university center teacher education model is an addition to the literature on student persistence in distance education programs. Finding ways to foster and enhance faculty support through online interactions would be beneficial to promoting persistence within the 2+2 university center model.

This study is not without limitations. Students within the sample are members of three degree programs and do not represent all the degrees offered in teacher education at the institution. The data collected within the study are associated with the WPE Status Survey and are specific to East Carolina University and this 2+2 program. As such, the results cannot be applied to all 2+2 university center programs within teacher education or in other fields of study. The student demographic information and attitudes about academic and social integration were gathered over a period of a year and a half. Results yielded may only provide a snapshot of that

period of time and only further longitudinal analyses would confirm if the results herein are applicable on a broader scale. The demographics of the sample population included within the study may not be comparable to demographics at other institutions that have university center programs. For this reason, the results would not be completely representative of other models at other institutions.

Recommendations for Administrators and Future Research

Based upon the findings and conclusions of this study, the following recommendations are indicated:

1. Replication of the study with a larger population sample to include a larger sample of middle grades majors.

The present study examined a sample of student who represented primarily the elementary major. While students who majored in special education and middle grades were included in the sample, their overall numbers were much smaller than those students who were elementary majors. The very small numbers of middle grades students yielded variance in the ratings of overall instruction. In addition, the variance in grades received were more pronounced with middle grades majors. As such, definitive conclusions about the attitudes and experiences are tempered since the counts are so small within this study. Another examination of student attitudes about academic and social integration with a larger sample of middle grades majors is warranted to better understanding this subgroup. Within the WPE program and outside of the confines of this investigation, the attrition rate for middle grades students is 20-25% which is greater than the attrition rate for elementary and special education students. A replication of the study with larger counts of middle grades respondents may produce findings that could be used to enhance persistence within this subgroup. From an administrative perspective, an

understanding of what motivates middle grades teacher education students to remain enrolled and successfully complete would be important given the difficulty in recruiting individuals for this major.

2. Further research on the edTPA used as one of the performance outcomes in this study is needed with larger population samples.

Within the analyses implemented in the study, the overall edTPA score was used as a performance outcome measure since it provides a measure of overall competence of students who complete their program. Variances between age groups were discovered on the overall edTPA portfolio score. However, the edTPA consists of 12 different rubrics that assess a variety of pedagogical, content, and practice-based competencies. Additional research on each of the edTPA rubrics in comparison to student characteristics to ascertain if there are certain aspects within the assessment that subgroups perform better or worse on within the assessment. An understanding of whether being older makes a difference across the rubrics would be beneficial information. Students who are public school employees may perform better on certain rubrics within the edTPA than those that are not public school employees. These types of analyses would be useful to determine to gain better understanding of these subgroups. In addition, a comparison of the 2+2 university center teacher education candidates to a traditional on campus population on the individual rubrics and overall scores on the edTPA may yield information about the comparability of the 2+2 university center students further validating the model's efficacy in producing educators. While the 2+2 university center teacher education program seeks to graduate more students to fill classrooms within rural areas, it is important to ensure that those graduates that are being produced are of high quality on standardized measures such as the edTPA.

3. Additional qualitative research about the 2+2 university center teacher education model and the attitudes of the participants in the model is needed to glean a deeper understanding of those components of the program that serve to mitigate retention.

Student attitudes about academic and social integration were investigated utilizing a secondary data analysis of the WPE Status Survey. Demographic information was also collected within the instrument. Participants who took the survey also had the opportunity to enter anecdotal responses about their experiences within the program. An analysis of the anecdotal responses would be useful to garner additional information about students' perception about the instruction, advising, and other support they receive within the program. In addition, focus groups or individual interviews with students who are currently enrolled and who have graduated would be a useful enterprise to tease out detailed information about those factors that are critical for persistence beyond the definitive responses that a survey can only produce. Bilbro-Berry (2011) conducted a qualitative study of 2+2 university center teacher education students to determine those factors that were critical to graduates who comprised the first completely online cohort within the program. She determined that convenience of delivery and cohort support were important for persistence to those interviewed within the study. Delving deeper through additional qualitative research to incorporate Wenger's (1998) *Communities of Practice*, would add to the present study by providing more information about the nature of the shared experience and its impact on learning content which Wenger emphasized in his work.

4. Revisions to WPE Status Survey are necessary to investigate more thoroughly the student characteristics of the participants as well as their attitudes about various aspects of the 2+2 university center teacher education model.

Within the present study, convenience proved to be an important motivator for student persistence within the 2+2 university center teacher education model. The WPE Status Survey solicits information about the program structure and overall importance of convenience. However, it is unclear as to what aspects of the program make it convenient. Is convenience important because of the part-time nature of the program? Is it because the delivery of the program is mostly online? Is it convenient because classes are guaranteed and students do not have to register themselves for classes? These types of questions would be useful to incorporate within the WPE Status Survey to further determine what truly makes the program convenient to its participants.

Faculty support was found to be important within the study. The WPE Status Survey requests that students indicate whether faculty support is influential in their continued persistence within the program. What is missing from the survey is specific information about what kinds of faculty support are important to students. Additional questions about the types of interactions with faculty as well as the types of activities that promote interaction, such as web-based synchronous class meetings, would be useful to determine what types of activities best foster students' feelings of being supported socially by faculty members. Further, gaining more information about the quality of faculty support would be another useful addition to the survey.

Further, cohort support was important when compared to whether or not a student would recommend the program to others. Bilbro-Berry (2012) found in her qualitative study that the participants indicated that having others who shared the experience within the learning community was important. The participants shared that they disliked group work when it was assigned by instructors but realized in retrospect that these activities promoted not only their learning but also their social connections to their cohort members (Bilbro-Berry, 2011).

Additional questions within the survey to find out which activities promote cohort support would be useful to gather. Gaining an understanding of the type of interactions with peers that help students feel social integrated would perhaps promote greater retention within the program.

While the survey was found to be a valid and reliable instrument, further testing of the instrument is recommended to further justify its use with students. Additional demographic information to be collected within the survey regarding rural characteristics would enhance knowledge of the population served. Asking students if they would have pursued a teacher education degree without the 2+2 university center model would be a useful addition to the instrument. Reasons for not pursuing the degree if not for the 2+2 opportunity could be teased out to determine if distance from the campus, increased cost of on campus tuition, or other reasons exist. Overall, the WPE Status Survey provides useful programmatic information about a population of students and their attitudes about their experiences. Additional questions could further enhance knowledge of the population such that programmatic and policy implications could result.

5. Retention policy development should occur to incorporate the findings within the study.

Information utilizing the results from this study should be incorporated into program policies to foster student retention within the 2+2 university center teacher education model. Older students have varied perceptions of instruction, advising and faculty support in comparison to their younger counterparts. Positive interactions and support from faculty promotes persistence for older students and should be continued and enhanced. Conversely, examining different strategies for the youngest age range to perhaps include activities that promote persistence in traditional age students may be useful to incorporate into practice within the 2+2

university center model. In addition, underrepresented groups within the model to include males and African Americans may benefit from targeted activities that enhance academic and social connections with advisors and peers. Given the current economic climate and issues related to recruiting and retaining teacher education students, it is even more critical that underrepresented populations be examined and addressed within policy and practice.

6. Meta-analytic study of 2+2 programs.

Most research in this vein is single site and is limited to specific contexts through focus upon a particular program at one institution. Gathering information about performance outcomes, student characteristics, and motivating factors for persistence would be useful to determine those critical student retention pieces. A study looking at 2+2 programs nationwide would be able to delineate trends with broader generalizability and could speak more strongly to what good practice is. Approaching such a meta-analysis from Tinto's theoretical framework might serve to either validate to repudiate his ideas within the 2+2 setting which span both the community college and four-year university arenas.

Summary

The complexity of the issue of teacher shortages across the nation integrates problems of population growth, the retirements of older educators, insufficient production of teachers, and attrition of currently employed teachers such that there are inadequate numbers of teachers to fill classrooms in public schools. Shortages have prompted institutions of higher education to create varied pathways for production of new educators to include the 2+2 university teacher education model. Comparability of the model to on campus programs and as a viable means of production of new teachers for rural areas has been researched. However, those factors that promote persistence within model were investigated within this study of a population of 2+2 university

center teacher education candidates. The convenience of the delivery of the model proved to be an influential factor for student persistence in the distance education model. Individuals who represent older adults and who work in public schools while enrolled view their overall instruction and advising differently than their younger cohort members. Support from advisors, faculty and peers influence different subgroups toward persistence within the 2+2 university center teacher education model. This study serves to inform those who currently operate 2+2 university center programs about areas for enhancement for persistence of students within such models. The research is a first step at completely understanding the motivations of the students enrolled. However, the information included herein provides a foundation for the development of a set of research-based strategies for retention within the 2+2 university center teacher education model.

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APPENDIX A: WPE STATUS SURVEY

Section A

Directions: Please respond to the items below.

In Which program area are you enrolled?

- Elementary
- Middle Grades
- Special Education

To which consortium are you assigned?

- Coastal Consortium
- North Central Consortium
- Northeast Consortium
- South Central Consortium
- Virtual Consortium

Which of the following is influential in your continued participation in WPE? Check all that apply.

- Assistance from WPE advisor
 - Convenience of course delivery
 - Faculty who teach my courses
 - Financial Aid received or plan to receive
 - Faculty support
 - Support from classmates/cohort members.
 - Other (Please explain)
-

How do you fund your costs to attend college, which includes tuition, fees, and books? Check all that apply.

- Own Income
- Spouse/Partner Income
- Parental Income
- Financial Aid (Check all types of financial aid received)
 - Scholarship(s)
 - Grant(s) (i.e. Pell Grant, other grants)
 - Student Loan
 - Parental Loan

How would you rate the amount of classes per semester?

- Appropriate number of courses
- Too many courses
- Not enough courses

If there was something you could change about your experience with WPE thus far, what would it be?

Section B

Please Rate the following items:

Instruction:	Strongly Disagree	Disagree	Agree	Strongly Agree	N/A
The instructors respond to my inquiries in a timely manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The ECU tutorials that are available on the website are useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The delivery mode is suited for my learning style.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The instruction I receive is effective.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The face to face sessions allow me an opportunity to strengthen the connection to my cohort and the program area faculty.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel competent in teaching children with diverse learning needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel competent in teaching children who have English as a Second Language.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As a novice educator, I feel I am gaining the necessary skills to make me an effective teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Overall Instruction Rating (Poor=1; Outstanding=5)

How would you rate your instruction overall?	1	2	3	4	5
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Advising:

The hub site coordinator responds to my questions in a timely manner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend this opportunity for other community college transfer students interested in a teacher education degree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The amount of advising I receive is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

adequate.

Overall Advising Rating (Poor=1; Outstanding=5)

How would you rate your advising overall?	1	2	3	4	5
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Support/Other:

Hardware and software support is readily available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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The instructional technology tools are user friendly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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I use the WPE website often and find it to be useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Overall Support Rating (Poor=1; Outstanding=5)

How would you rate your support overall?	1	2	3	4	5
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Section C

Please answer the following questions.

What is your gender?

- Male
- Female

What is your age range?

- 20-29
- 30-39
- 40-49
- 50-59
- 60+

What is your Race? Check all that apply.

- African American
- Asian/Asian American
- Caucasian
- Hispanic
- Native American
- Other

Are you connected to the military in any way?

- Yes
- No

If yes, please check all that apply:

- I am active duty.
- I am retired military
- I am the spouse of an active duty soldier.
- I am the spouse of a retired military person
- I am a dependent of a military person.

Are you admitted to upper division?

- Yes
- No

Have you completed your general education course requirements at the community college?

- Yes
- No

What is your current work status?

- Work Full Time
- Work Part Time
- Do Not Work

Do you work for a public school system?

- Yes
- No

If yes, in what capacity?

- Bus Driver
- Custodian
- Office/Clerical
- Substitute Teacher
- Teacher Assistant
- Other Position (please describe)

APPENDIX B: STATISTICAL ANALYSES

Table 1

Chi Square – Major to Senior I Courses

	df	N	χ^2	p
ELEM 4525	2	90	0.12	0.94
SPED 4010	2	90	0.10	0.95
MIDG 4010	5	26	3.70	0.59

Table 2

Chi Square – Major to Senior II Courses

	df	N	χ^2	p
ELEM 4524	4	90	1.60	0.80
ELEM 4525	4	90	2.74	0.60
ELEM 4526	3	90	0.75	0.86
SPED 4320	4	90	2.74	0.60
SPED 4324	4	90	1.60	0.81
MIDG 4324	4	18	4.98	0.30
MIDG 4325	2	18	1.49	0.48

Table 3

Chi Square – Major to READ Courses

	df	N	χ^2	p
READ 3302	4	135	3.51	0.46
READ 3305	8	170	2.88	0.94
READ 3306	7	170	3.75	0.81
READ 4534	3	99	2.09	0.55
READ 5316	18	178	8.82	0.96
READ 5317	6	144	11.91	0.06

Table 4

One Way ANOVAs of Major to edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	2	0.33	0.16	0.30	0.55	0.058
Final GPA	2	0.37	0.18	0.09	2.10	0.13
Praxis II core	1	1590.61	1590.61	118.37	13.44	0.0006*
Praxis II content	1	3376.80	3376.80	52.79	63.96	<0.0001*

* $p = <0.001$

Table 5

Chi Square – Gender to Senior I Courses

	df	N	χ^2	p
ELEM 4525	2	90	0.64	0.73
SPED 4010	2	90	0.84	0.66
MIDG 4010	5	26	1.70	0.89

Table 6

Chi Square – Gender to Senior II Courses

	df	N	χ^2	p
ELEM 4524	4	90	21.95	0.00*
ELEM 4525	4	90	21.95	0.00*
ELEM 4526	3	90	0.41	0.94
SPED 4320	4	90	21.95	0.00*
SPED 4324	4	90	21.95	0.00*
MIDG 4324	4	18	5.66	0.23
MIDG 4325	2	18	0.42	0.81

$p = <0.001$

Table 7

Chi Square – Gender to READ Courses

	df	N	χ^2	p
READ 3302	4	135	3.84	0.43
READ 3305	8	170	1.06	1.00
READ 3306	7	170	0.93	0.86
READ 4534	3	99	7.41	0.06
READ 5316	9	178	1.32	1.00
READ 5317	3	144	14.45	0.66

Table 8

ANOVAs – Gender to edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	1	0.32	0.32	0.29	1.09	0.30
Final GPA	1	0.03	0.03	0.10	0.31	0.58
Praxis II Content	1	133.81	133.81	149.37	0.90	0.35
Praxis II Core	1	48.27	48.27	125.15	0.39	0.54

Table 9

One Way ANOVAs – Race to edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	2	1.00	0.50	0.29	1.73	0.19
Final GPA	2	0.50	0.25	0.09	2.85	0.06
Praxis II core	1	737.29	737.29	136.53	5.40	0.03*
Praxis II content	1	6.30	6.30	126.06	0.05	0.82

* $p < 0.05$

Table 10

Chi Square – Age Range to Senior I Courses

	df	N	χ^2	p
ELEM 4525	6	90	4.68	0.59
SPED 4010	6	90	5.20	0.52
MIDG 4010	15	26	15.88	0.39

Table 11

Chi Square – Age Range to Senior II Courses

	df	N	χ^2	p
ELEM 4524	12	90	23.41	0.24
ELEM 4525	12	90	10.78	0.54
ELEM 4526	9	90	7.53	0.58
SPED 4320	12	90	10.78	0.55
SPED 4324	12	90	23.41	0.24
MIDG 4324	12	18	15.43	0.22
MIDG 4325	6	18	4.37	0.62

Table 12

Chi Square – Age Range to READ Courses

	df	N	χ^2	p
READ 3302	12	135	11.79	0.46
READ 3305	24	170	15.19	0.92
READ 3306	21	170	14.13	0.86
READ 4534	9	99	7.60	0.57
READ 5316	27	178	17.02	0.93
READ 5317	9	144	6.74	0.66

Table 13

One Way ANOVAs – Age Range to edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	3	5.47	1.82	0.23	7.97	0.00*
Final GPA	3	0.21	0.07	0.09	0.77	0.51
Praxis II core	3	324.75	108.25	151.76	0.71	0.54
Praxis II content	3	316.40	105.47	124.75	0.85	0.48

* $p < 0.0001$

Table 14

Chi Square – Work Status to Senior I Courses

	df	N	χ^2	p
ELEM 4525	6	90	14.11	0.14
SPED 4010	6	90	30.54	0.09
MIDG 4010	10	26	18.04	0.26

Table 15

Chi Square – Work Status to Senior II Courses

	df	N	χ^2	p
ELEM 4524	12	90	9.56	0.65
ELEM 4525	12	90	8.94	0.70
ELEM 4526	9	90	4.42	0.88
SPED 4320	12	90	8.95	0.70
SPED 4324	12	90	9.56	0.65
MIDG 4324	8	18	8.14	0.41
MIDG 4325	4	18	2.65	0.61

Table 16

Chi Square – Work Status to READ Courses

	df	N	χ^2	p
READ 3301	4	135	6.44	0.60
READ 3302	4	135	8.10	0.09
READ 3305	8	170	6.44	0.60
READ 3306	7	170	7.70	0.36
READ 4534	3	99	5.24	0.16
READ 5316	9	178	9.50	0.39
READ 5317	3	144	1.83	0.60

Table 17

One Way ANOVAs – Work Status to edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	3	0.86	0.29	0.30	0.97	0.41
Final GPA	3	0.61	0.20	0.09	2.34	0.08
Praxis II core	2	165.66	82.83	151.92	0.55	0.58
Praxis II content	2	770.51	385.26	111.88	3.44	0.04*

* $p < 0.05$

Table 18

Chi Square – Public School Work Status to Senior I Courses

	df	N	χ^2	p
ELEM 4525	2	90	0.12	0.94
SPED 4010	2	90	0.10	0.95
MIDG 4010	5	26	3.70	0.59

Table 19

Chi Square – Public School Work Status to Senior II Courses

	df	N	χ^2	p
ELEM 4524	4	90	1.60	0.80
ELEM 4525	4	90	2.74	0.60
ELEM 4526	3	90	0.75	0.86
SPED 4320	4	90	2.74	0.60
SPED 4324	4	90	1.60	0.81
MIDG 4324	4	18	4.98	0.30
MIDG 4325	2	18	1.49	0.48

Table 20

Chi Square – Public School Work Status to READ Courses

	df	N	χ^2	p
READ 3302	4	135	8.10	0.09
READ 3305	8	170	6.44	0.60
READ 3306	7	170	7.70	0.36
READ 4534	3	99	5.24	0.16
READ 5316	9	178	9.50	0.39
READ 5317	3	144	1.83	0.60

Table 21

One Way ANOVAs – Public School Work Status to edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	1	0.04	0.04	0.04	0.13	0.72
Final GPA	1	0.10	0.10	0.09	1.07	0.30
Praxis II core	1	21.27	21.27	151.76	0.14	0.71
Praxis II content	1	17.54	17.54	125.82	0.14	0.71

Table 22

Chi Square – Connection to Military to Senior I Courses

	df	N	χ^2	p
ELEM 4525	6	90	0.81	1.00
SPED 4010	6	90	2.97	0.81
MIDG 4010	5	26	1.21	0.94

Table 23

Chi Square – Connection to Military to Senior II Courses

	df	N	χ^2	p
ELEM 4524	12	90	0.52	1.00
ELEM 4525	12	90	0.52	1.00
ELEM 4526	9	90	0.52	1.00
SPED 4320	12	90	0.52	1.00
SPED 4324	12	90	0.52	1.00
MIDG 4324	4	18	0.30	0.98
MIDG 4325	2	18	0.30	0.16

Table 24

Chi Square – Connection to Military to READ Courses

	df	N	χ^2	p
READ 3302	16	135	2.61	0.99
READ 3305	40	170	92.28	0.08
READ 3306	40	170	92.57	0.09
READ 4534	9	99	11.09	0.27
READ 5316	45	178	23.88	1.00
READ 5317	12	144	6.57	0.88

Table 25

One Way ANOVAs – Connections to Military to edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	3	1.12	0.37	0.29	1.28	0.29
Final GPA	4	0.23	0.06	0.09	0.62	0.65
Praxis II core	4	922.26	230.67	141.00	63.00	0.18
Praxis II content	4	361.85	90.46	126.59	0.71	0.59

Table 26

Chi Square – Rural Status to Senior I Courses

	df	N	χ^2	p
ELEM 4525	2	90	1.14	0.50
SPED 4010	6	90	1.34	0.51
MIDG 4010	5	26	6.27	0.28

Table 27

Chi Square – Rural Status to Senior II Courses

	df	N	χ^2	p
ELEM 4524	4	90	2.53	0.64
ELEM 4525	4	90	2.53	0.64
ELEM 4526	3	90	1.53	0.68
SPED 4320	4	90	2.53	0.64
SPED 4324	4	90	2.53	0.64
MIDG 4324	4	18	1.98	0.74
MIDG 4325	2	18	0.46	0.80

Table 28

Chi Square – Rural Status to READ Courses

	df	N	χ^2	p
READ 3302	4	135	3.26	0.52
READ 3305	8	170	4.88	0.77
READ 3306	7	170	4.97	0.69
READ 4534	3	99	1.74	0.63
READ 5316	9	178	3.82	0.92
READ 5317	3	144	1.45	0.69

Table 29

ANOVA for Rural Status for edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	1	0.28	0.28	0.30	0.95	0.33
Final GPA	1	0.00	0.00	0.09	0.00	0.95
Praxis II core	1	205.84	205.84	147.84	1.93	0.24
Praxis II content	1	67.74	67.74	124.73	0.54	0.47

Table 30

Chi Square – Funding with Own Income to Senior I Courses

	df	N	χ^2	p
ELEM 4525	2	90	2.00	0.37
SPED 4010	2	90	2.59	0.27
MIDG 4010	5	26	5.46	0.36

Table 31

Chi Square – Funding with Own Income to Senior II Courses

	df	N	χ^2	p
ELEM 4524	4	90	10.26	0.17
ELEM 4525	4	90	10.26	0.17
ELEM 4526	3	90	5.66	0.12
SPED 4320	4	90	10.26	0.17
SPED 4324	4	90	10.26	0.17
MIDG 4324	4	18	3.27	0.51
MIDG 4325	2	18	0.84	0.66

Table 32

Chi Square – Funding with Own Income to READ Courses

	df	N	χ^2	p
READ 3302	4	135	3.06	0.54
READ 3305	8	170	5.71	0.67
READ 3306	7	170	4.00	0.78
READ 4534	3	99	2.38	0.50
READ 5316	9	178	12.03	0.21
READ 5317	3	144	5.30	0.15

Table 33

Chi Square – Funding with Financial Aid/Loans to Senior I Courses

	df	N	χ^2	p
ELEM 4525	2	90	0.22	0.90
SPED 4010	2	90	0.43	0.80
MIDG 4010	2	26	6.27	0.28

Table 34

Chi Square – Funding with Financial Aid/Loans to Senior II Courses

	df	N	χ^2	p
ELEM 4524	4	90	1.49	0.83
ELEM 4525	4	90	1.20	0.88
ELEM 4526	3	90	0.91	0.82
SPED 4320	4	90	1.20	0.88
SPED 4324	4	90	1.49	0.83
MIDG 4324	4	18	1.98	0.74
MIDG 4325	2	18	0.46	0.80

Table 35

Chi Square – Funding with Financial Aid/Loans to READ Courses

	df	N	χ^2	p
READ 3302	4	135	1.20	0.87
READ 3305	8	170	2.56	0.96
READ 3306	7	170	2.92	0.89
READ 4534	3	99	4.67	0.20
READ 5316	9	178	10.11	0.34
READ 5317	3	144	0.41	0.94

Table 36

One Way ANOVAs – Funding with Own Income to edTPA, Final GPA, and Praxis II Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	1	0.09	0.09	0.30	0.30	0.58
Final GPA	1	0.22	0.22	0.09	2.51	0.12
Praxis II core	1	672.83	672.83	137.90	4.88	0.03*
Praxis II content	1	390.14	390.14	117.72	3.31	0.08

* $p < 0.05$

Table 37

One Way ANOVAs – Funding with Financial Aid or Loan to edTPA, Final GPA, and Praxis II

Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
edTPA score	1	0.14	0.14	0.30	0.48	0.49
Final GPA	1	0.01	0.01	0.09	0.05	0.81
Praxis II core	1	123.02	123.02	149.60	0.82	0.37
Praxis II content	1	20.25	20.25	125.76	0.16	0.69

Table 38

One Way ANOVAs – Graduated to Overall Instruction, Advising and Other Support Received

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	P
Overall Instruction	2	3.78	1.89	0.45	4.20	0.02*
Overall Advising	2	2.64	1.32	0.54	2.44	0.09
Overall Support	2	1.97	0.99	0.54	1.83	0.16

* $p < 0.05$

Table 39

One Way ANOVA s- Employed to Overall Instruction, Advising and Other Support Received

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
Overall Instruction	3	4.02	1.34	0.45	2.96	0.03*
Overall Advising	3	2.67	0.89	0.54	1.64	0.18
Overall Support	3	2.38	0.79	0.54	1.47	0.22

* $p < 0.05$

Table 40

Chi Square – Instruction Received Perceptions by Grades in 2123 and EDUC 4400

	df	N	χ^2	p
<i>Instruction received is effective</i>				
2123	3	261	3.10	0.38
EDUC 4400	12	197	27.66	0.37
<i>Competent teaching diverse learners</i>				
2123	4	261	1.35	0.85
EDUC 4400	16	197	12.58	0.70
<i>Competent teaching ESL</i>				
2123	4	261	1.06	0.90
EDUC 4400	16	197	11.28	0.79

Table 41

Chi Square – Program Structure Perceptions by Grades in 2123 and EDUC 4400

	df	N	χ^2	p
<i>Convenience</i>				
2123	1	261	0.75	0.39
EDUC 4400	4	197	12.29	0.24
<i>Amount of classes adequate</i>				
2123	3	261	2.85	0.42
EDUC 4400	12	197	4.34	0.97
<i>Delivery mode suitable</i>				
2123	4	261	8.46	0.07
EDUC 4400	16	197	38.87	0.00*

* $p = <0.01$

Table 42

Chi Square – Other Support Perceptions by Grades in 2123 and EDUC 4400

	df	N	χ^2	p
<i>Tutorials useful</i>				
2123	4	261	9.85	0.14
EDUC 4400	16	197	34.82	0.00*
<i>Hardware/software support available</i>				
2123	3	261	16.61	0.00*
EDUC 4400	12	197	3.85	0.98
<i>Website useful</i>				
2123	4	261	4.97	0.29
EDUC 4400	16	197	12.09	0.73
<i>Technology tools user friendly</i>				
2123	3	261	4.11	0.25
EDUC 4400	12	197	4.48	0.97

* $p = <0.01$

Table 43

Chi Square – Instruction Received Perceptions by Grades in Senior I Courses

	# Rows	# Columns	N	χ^2	p
<i>Instruction received is effective</i>					
ELEM 4525	3	3	90	13.83	0.06
SPED 4010	3	3	90	15.35	0.26
MIDG 4010	6	4	26	13.62	0.55
<i>Competent teaching diverse learners</i>					
ELEM 4525	3	3	90	24.98	0.08
SPED 4010	3	3	90	57.81	0.14
MIDG 4010	6	5	26	12.21	0.27
<i>Competent teaching ESL</i>					
ELEM 4525	3	3	90	5.44	0.49
SPED 4010	3	3	90	14.79	0.02*
MIDG 4010	6	5	26	13.23	0.58

* $p = <0.05$

Table 44

Chi Square – Program Structure Perceptions by Grades in Senior I Courses

	# Rows	# Columns	N	χ^2	p
<i>Convenience</i>					
ELEM 4525	3	2	90	1.15	0.56
SPED 4010	3	2	90	6.49	0.11
MIDG 4010	6	2	26	8.53	0.12
<i>Amount of classes adequate</i>					
ELEM 4525	3	4	90	11.71	0.10
SPED 4010	3	4	90	29.54	0.00*
MIDG 4010	6	4	26	2.93	0.71
<i>Delivery mode suitable</i>					
ELEM 4525	3	5	90	13.25	0.06
SPED 4010	3	5	90	31.56	0.00*
MIDG 4010	6	5	26	11.39	0.72

* $p = <0.01$

Table 45

Chi Square – Other Support Perceptions by Grades in Senior I Courses

	# Rows	# Columns	N	χ^2	p
<i>Tutorials useful</i>					
ELEM 4525	3	5	90	18.88	0.19
SPED 4010	3	5	90	13.73	0.09
MIDG 4010	6	5	26	44.76	0.37
<i>Hardware/software support available</i>					
ELEM 4525	3	4	90	10.50	0.10
SPED 4010	3	4	90	31.17	0.06
MIDG 4010	6	4	26	7.51	0.67
<i>Website useful</i>					
ELEM 4525	3	5	90	14.92	0.06
SPED 4010	3	5	90	11.26	0.18
MIDG 4010	6	5	26	12.84	0.23
<i>Technology tools user friendly</i>					
ELEM 4525	3	4	90	4.80	0.57
SPED 4010	3	4	90	16.77	0.06
MIDG 4010	6	4	26	11.39	0.72

Table 46

ANOVA s- Senior I Courses to Overall Instruction, Advising and Other Support Received

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
<i>Overall Instruction</i>						
ELEM 4525	3	4.02	1.34	0.45	2.96	0.03*
SPED 4010	2	0.48	0.24	0.27	0.87	0.42
MIDG 4010	5	1.18	0.24	0.39	0.61	0.69
<i>Overall Advising</i>						
ELEM 4525	3	2.67	0.89	0.54	1.64	0.18
SPED 4010	2	0.51	0.26	0.49	0.52	0.59
MIDG 4010	5	0.52	0.10	0.30	0.34	0.88
<i>Overall Support</i>						
ELEM 4525	3	2.38	0.79	0.54	1.47	0.22
SPED 4010	2	0.11	0.05	0.46	0.11	0.89
MIDG 4010	5	5.63	1.13	0.96	1.17	0.36

* $p < 0.05$

Table 47

Chi Square – Instruction Received Perceptions by Grades in Senior II Courses

	# Rows	# Columns	N	χ^2	p
<i>Instruction received is effective</i>					
ELEM 4524	5	4	90	5.63	0.93
ELEM 4526	4	4	90	3.23	0.95
SPED 4320	5	4	90	5.63	0.93
SPED 4324	5	4	90	5.63	0.93
MIDG 4324	5	4	18	10.68	0.56
MIDG 4325	3	4	18	4.00	0.68
<i>Competent teaching diverse learners</i>					
ELEM 4524	5	5	90	6.08	0.91
ELEM 4526	4	5	90	9.98	0.35
SPED 4320	5	5	90	4.05	0.98
SPED 4324	5	5	90	6.04	0.91
MIDG 4324	5	5	18	9.07	0.34
MIDG 4325	3	5	18	1.40	0.84
<i>Competent teaching ESL</i>					
ELEM 4524	5	5	90	6.83	0.87
ELEM 4526	4	5	90	2.40	0.98
SPED 4320	5	5	90	5.53	0.94
SPED 4324	5	5	90	6.82	0.87
MIDG 4324	5	5	18	12.79	0.38
MIDG 4325	3	5	18	2.50	0.87

Table 48

Chi Square – Program Structure Perceptions by Grades in Senior II Courses

	# Rows	# Columns	N	χ^2	p
<i>Convenience</i>					
ELEM 4524	5	2	90	0.41	0.98
ELEM 4526	4	2	90	0.41	0.93
SPED 4320	5	2	90	0.41	0.98
SPED 4324	5	2	90	0.41	0.98
MIDG 4324	5	2	18	1.03	0.90
MIDG 4325	3	2	18	4.15	0.13
<i>Amount of classes adequate</i>					
ELEM 4524	5	4	90	4.33	0.82
ELEM 4526	4	4	90	1.10	0.98
SPED 4320	5	4	90	4.33	0.83
SPED 4324	5	4	90	4.33	0.83
MIDG 4324	5	4	18	1.98	0.74
MIDG 4325	3	4	18	0.46	0.79
<i>Delivery mode suitable</i>					
ELEM 4524	5	5	90	2.02	1.00
ELEM 4526	4	5	90	3.28	0.95
SPED 4320	5	5	90	3.69	0.99
SPED 4324	5	5	90	2.02	1.00
MIDG 4324	5	5	18	12.28	0.42
MIDG 4325	3	5	18	12.98	0.06

Table 49

Chi Square – Other Support Perceptions by Grades in Senior II Courses

	# Rows	# Columns	N	χ^2	p
<i>Tutorials useful</i>					
ELEM 4524	5	5	90	48.31	0.72
ELEM 4526	4	5	90	4.65	0.96
SPED 4320	5	5	90	48.31	0.07
SPED 4324	5	5	90	48.31	0.00*
MIDG 4324	5	5	18	14.36	0.28
MIDG 4325	3	5	18	5.68	0.46
<i>Hardware/software support available</i>					
ELEM 4524	5	4	90	26.68	0.08
ELEM 4526	4	4	90	3.53	0.93
SPED 4320	5	4	90	26.68	0.07
SPED 4324	5	4	90	26.68	0.01**
MIDG 4324	5	4	18	8.11	0.42
MIDG 4325	3		18	4.35	0.36
<i>Website useful</i>					
ELEM 4524	5	5	90	12.16	0.73
ELEM 4526	4	5	90	3.62	0.98
SPED 4320	5	5	90	12.16	0.73
SPED 4324	5	5	90	12.16	0.73
MIDG 4324	5	5	18	11.83	0.16
MIDG 4325	3		18	0.77	
<i>Technology tools user friendly</i>					
ELEM 4524	5	4	90	46.40	0.07
ELEM 4526	4	4	90	1.95	0.99
SPED 4320	5	4	90	49.42	0.09
SPED 4324	5	4	90	46.40	0.00*
MIDG 4324	5	4	18	27.32	0.01**
MIDG 4325	3	4	18	8.12	0.23

* $p = <0.0001$; ** $p = <0.05$

Table 50

Chi Square – Instruction Received Perceptions by Grades in Reading Courses

	# Rows	# Columns	N	χ^2	p
<i>Instruction received is effective</i>					
READ 3302	5	4	135	61.39	0.08
READ 3305	9	4	170	13.21	0.96
READ 3306	8	4	170	15.85	0.77
READ 4534	4	4	99	46.19	0.12
READ 5316	10	4	178	51.41	0.09
READ 5317	4	4	144	37.43	0.07
<i>Competent teaching diverse learners</i>					
READ 3302	5	5	135	30.75	0.11
READ 3305	9	5	170	20.26	0.94
READ 3306	8	5	170	25.14	0.62
READ 4534	4	5	99	109.79	0.11
READ 5316	10	5	170	23.14	0.95
READ 5317	4	5	144	12.12	0.21
<i>Competent teaching ESL</i>					
READ 3302	5	5	135	17.44	0.36
READ 3305	9	5	170	12.28	1.00
READ 3306	8	5	170	10.15	1.00
READ 4534	4	5	99	53.95	0.06
READ 5316	10	5	178	33.90	0.56
READ 5317	4	5	144	11.40	0.49

Table 51

Chi Square – Program Structure Perceptions by Grades in Reading Courses

	# Rows	# Columns	N	χ^2	p
<i>Convenience</i>					
READ 3302	5	2	135	29.14	0.21
READ 3305	9	2	170	4.21	0.84
READ 3306	8	2	170	4.55	0.71
READ 4534	4	2	99	29.94	0.26
READ 5316	10	2	178	8.42	0.49
READ 5317	4	2	144	17.07	0.00**
<i>Amount of classes adequate</i>					
READ 3302	5	4	135	13.18	0.31
READ 3305	9	4	170	10.07	1.00
READ 3306	8	4	170	9.48	0.98
READ 4534	4	4	99	51.87	0.00*
READ 5316	10	4	178	34.75	0.06
READ 5317	4	4	144	8.16	0.52
<i>Delivery mode suitable</i>					
READ 3302	5	5	135	32.55	0.07
READ 3305	9	5	170	12.67	0.97
READ 3306	8	5	170	10.38	0.97
READ 4534	4	5	99	99.74	0.00*
READ 5316	10	5	178	29.32	0.77
READ 5317	4	5	144	39.91	0.00**

* $p = <0.0001$; ** $p = <0.001$

Table 52

Chi Square – Other Support Perceptions by Grades in Reading Courses

	# Rows	# Columns	N	χ^2	p
<i>Tutorials useful</i>					
READ 3302	5	5	135	34.62	0.06
READ 3305	9	5	170	38.08	0.21
READ 3306	8	5	170	49.47	0.06
READ 4534	4	5	99	30.71	0.07
READ 5316	10	5	178	26.06	0.89
READ 5317	4	5	144	36.66	0.06
<i>Hardware/software support available</i>					
READ 3302	5	4	135	26.99	0.07
READ 3305	9	4	170	10.74	1.00
READ 3306	8	4	170	10.78	1.00
READ 4534	4	4	99	101.51	0.00*
READ 5316	10	4	178	27.54	0.44
READ 5317	4	4	144	14.29	0.11
<i>Website useful</i>					
READ 3302	5	5	135	17.92	0.33
READ 3305	9	5	170	14.36	1.00
READ 3306	8	5	170	13.73	1.00
READ 4534	4	5	99	45.06	0.00*
READ 5316	10	5	176	38.96	0.34
READ 5317	4	5	144	20.82	0.37
<i>Technology tools user friendly</i>					
READ 3302	5	4	135	37.01	0.07
READ 3305	9	4	170	16.22	0.88
READ 3306	8	4	170	17.36	0.69
READ 4534	4	4	99	56.84	0.00*
READ 5316	10	4	178	41.85	0.08
READ 5317	4	4	144	20.37	0.18

* $p = <0.0001$

Table 53

Chi Square- Attitudes about Instructor Interactions to Grades in Senior I Courses

	# Rows	# Columns	N	χ^2	p
<i>Faculty Support</i>					
ELEM 4525	3	2	90	2.93	0.23
SPED 4010	3	2	90	0.60	0.74
SPED 4300	3	2	35	2.31	0.32
MIDG 4010	6	2	26	2.67	0.75
<i>Instructor Timely Response</i>					
ELEM 4525	3	5	90	19.10	0.00*
SPED 4010	3	5	90	17.25	0.01*
SPED 4300	3	5	35	3.95	0.41
MIDG 4010	6	5	26	10.39	0.41
<i>Face to Face Sessions</i>					
ELEM 4525	3	5	90	10.51	0.23
SPED 4010	3	5	90	11.42	0.18
SPED 4100	3	5	35	2.50	0.64
MIDG 4010	6	5	26	35.23	0.02*
<i>Novice Gain Skills</i>					
ELEM 4525	3	5	90	4.24	0.37
SPED 4010	3	5	90	14.82	0.01*
SPED 4300	3	5	35	0.97	0.62
MIDG 4010	6	5	26	6.40	0.78

* $p < 0.05$

Table 54

Chi Square- Attitudes about Instructor Interactions to Grades in Senior I Courses

	# Rows	# Columns	N	χ^2	p
<i>Advisor Assistance</i>					
ELEM 4525	3	2	90	0.77	0.68
SPED 4010	3	2	90	1.10	0.58
SPED 4300	3	2	35	4.50	0.11
MIDG 4010	6	2	26	1.27	0.94
<i>Advisor Timely Response</i>					
ELEM 4525	3	5	90	6.74	0.35
SPED 4100	3	5	35	1.13	0.77
SPED 4300	3	5	35	6.99	0.32
MIDG 4010	6	5	26	9.91	0.83

* $p < 0.05$

Table 55

Chi Square- Attitudes about Cohort Interaction to Grades in Senior I Courses

	# Rows	# Columns	N	χ^2	p
<i>Cohort Support</i>					
ELEM 4525	3	2	90	3.26	0.20
SPED 4010	3	2	90	0.21	0.90
SPED 4300	3	2	35	1.92	0.38
MIDG 4010	6	2	26	10.12	0.07
<i>Would Recommend</i>					
ELEM 4525	3	5	90	12.74	0.05
SPED 4010	3	5	90	30.28	0.00*
SPED 4300	3	5	35	0.37	0.83
MIDG 4010	6	5	26	11.05	0.75

* $p < 0.05$

Table 56

Chi Square- Attitudes about Instructor Interaction to Grades in Senior II Courses

	# Rows	# Columns	N	χ^2	p
<i>Faculty Support</i>					
ELEM 4524	5	2	90	5.10	0.28
ELEM 4526	4	2	90	6.18	0.10
SPED 4320	5	2	90	5.10	0.28
SPED 4324	5	2	90	5.10	0.28
MIDG 4324	5	2	18	6.43	0.17
MIDG 4325	3	2	18	4.92	0.10
<i>Instructor Timely Response</i>					
ELEM 4524	5	5	90	2.55	1.00
ELEM 4526	4	5	90	1.18	1.00
SPED 4320	5	5	90	4.12	0.98
SPED 4324	5	5	90	2.55	1.00
MIDG 4324	5	5	18	4.63	0.80
MIDG 4325	3	5	18	4.71	0.32
<i>Face to Face Sessions</i>					
ELEM 4524	5	5	90	25.75	0.06
ELEM 4526	4	5	90	2.17	1.00
SPED 4320	5	5	90	25.75	0.06
SPED 4324	5	5	90	25.75	0.06
MIDG 4324	5	5	18	12.86	0.38
MIDG 4325	3	5	18	3.60	0.80
<i>Novice Gain Skills</i>					
ELEM 4524	5	5	90	5.16	0.74
ELEM 4526	4	5	90	2.11	0.91
SPED 4320	5	5	90	1.84	1.00
SPED 4324	5	5	90	5.16	0.74
MIDG 4324	5	5	18	4.17	0.84
MIDG 4325	3	5	18	4.65	0.33

Table 57

Chi Square- Attitudes about Advisor Interaction to Grades in Senior II Courses

	# Rows	# Columns	N	χ^2	p
<i>Advisor Assistance</i>					
ELEM 4524	5	2	90	14.19	0.01*
ELEM 4526	4	2	90	0.68	0.88
SPED 4320	5	2	90	6.61	0.16
SPED 4324	5	2	90	14.79	0.01*
MIDG 4324	5	2	18	1.03	0.91
MIDG 4325	3	2	18	0.42	0.81
<i>Advisor Timely Response</i>					
ELEM 4524	5	5	90	45.87	0.00*
ELEM 4526	4	5	90	3.56	0.94
SPED 4320	5	5	90	47.03	0.00*
SPED 4324	5	5	90	45.87	0.00*
MIDG 4324	5	5	18	21.47	0.04*
MIDG 4325	3	5	18	2.12	0.91

* $p < 0.05$

Table 58

Chi Square- Attitudes about Cohort Interaction to Grades in Senior II Courses

	# Rows	# Columns	N	χ^2	p
<i>Cohort Support</i>					
ELEM 4524	5	2	90	5.60	0.23
ELEM 4526	4	2	90	2.67	0.44
SPED 4320	5	2	90	5.60	0.23
SPED 4324	5	2	90	5.60	0.23
MIDG 4324	5	2	18	1.47	0.83
MIDG 4325	3	2	18	0.31	0.86
<i>Would Recommend</i>					
ELEM 4524	5	5	90	2.84	1.00
ELEM 4526	4	5	90	2.84	0.97
SPED 4320	5	5	90	2.84	1.00
SPED 4324	5	5	90	2.84	1.00
MIDG 4324	5	5	18	9.07	0.70
MIDG 4325	3	5	18	3.55	0.74

Table 59

Chi Square- Attitudes about Instructor Interaction to Grades in Reading Courses

	# Rows	# Columns	N	χ^2	p
<i>Faculty Support</i>					
READ 3302	5	2	135	2.84	0.59
READ 3305	9	2	170	7.37	0.50
READ 3306	8	2	170	6.97	0.43
READ 4534	4	2	99	1.35	0.72
READ 5316	10	2	178	13.62	0.14
READ 5317	4	2	144	7.12	0.07
<i>Instructor Timely Response</i>					
READ 3302	5	5	135	58.77	0.00*
READ 3305	9	5	170	31.01	0.15
READ 3306	8	5	170	29.13	0.11
READ 4534	4	5	99	51.98	0.00*
READ 5316	10	5	178	16.01	0.95
READ 5317	4	5	144	29.5	0.00*
<i>Face to Face Sessions</i>					
READ 3302	5	5	135	22.21	0.14
READ 3305	9	5	170	36.66	0.26
READ 3306	8	5	170	36.71	0.13
READ 4534	4	5	99	35.45	0.00*
READ 5316	10	5	178	43.82	0.17
READ 5317	4	5	144	28.17	0.01*
<i>Novice Gain Skills</i>					
READ 3302	5	5	135	153.23	0.00*
READ 3305	9	5	170	50.02	0.00*
READ 3306	8	5	170	48.65	0.00*
READ 4534	4	5	99	49.70	0.00*
READ 5316	10	5	178	27.14	0.86
READ 5317	4	5	144	13.34	0.35

* $p < 0.05$

Table 60

Chi Square- Attitudes about Advisor Interaction to Grades in Reading Courses

	# Rows	# Columns	N	χ^2	p
<i>Advisor Assistance</i>					
READ 3302	5	2	135	0.61	0.96
READ 3305	9	2	170	2.76	0.95
READ 3306	8	2	170	2.48	0.93
READ 4534	4	2	99	6.75	0.08
READ 5316	10	2	178	2.48	0.98
READ 5317	4	2	144	1.98	0.58
<i>Advisor Timely Response</i>					
READ 3302	5	5	135	33.66	0.01*
READ 3305	9	5	170	14.08	1.00
READ 3306	8	5	170	14.00	0.99
READ 4534	4	5	99	42.36	0.00*
READ 5316	10	5	178	19.32	1.00
READ 5317	4	5	144	18.68	0.10

* $p < 0.05$

Table 61

Chi Square- Attitudes about Cohort Interaction to Grades in Reading Courses

	# Rows	# Columns	N	χ^2	p
<i>Cohort Support</i>					
READ 3302	5	2	135	11.38	0.02*
READ 3305	9	2	170	8.38	0.40
READ 3306	8	2	170	10.72	0.15
READ 4534	4	2	99	4.21	0.24
READ 5316	10	2	178	12.88	0.17
READ 5317	4	2	144	11.62	0.01*
<i>Would Recommend</i>					
READ 3302	5	5	135	41.52	0.00*
READ 3305	9	5	170	26.45	0.33
READ 3306	8	5	170	26.57	0.19
READ 4534	4	5	99	100.82	0.00*
READ 5316	10	5	178	23.92	0.94
READ 5317	4	5	144	21.35	0.05

* $p < 0.05$

Table 62

One Way ANOVAs- Social Interaction to edTPA Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
Faculty Support	1	0.01	0.01	0.30	0.00	0.95
Instructor Timely Response	3	0.37	0.39	0.29	1.35	0.27
Face to Face Helpful	4	1.01	0.25	0.30	0.85	0.50
Novice Gain Skills	3	0.56	0.19	0.30	0.63	0.60
Advisor Assistance	1	0.01	0.01	0.30	0.03	0.86
Advisor Timely Response	4	0.44	0.11	0.31	0.36	0.83
Cohort Support	1	0.02	0.02	0.30	0.01	0.93
Would Recommend	3	0.67	0.22	0.30	0.75	0.53

 $N=72$, $eTPA$ Sum of Squares Total = 21.23

Table 63

One Way ANOVAs- Social Interaction to Final GPA

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
Faculty Support	1	0.25	0.25	0.10	0.03	0.95
Instructor Timely Response	3	1.53	0.51	0.80	6.42	0.00*
Face to Face Helpful	4	0.51	0.13	0.10	1.43	0.23
Novice Gain Skills	3	0.11	0.04	0.10	0.41	0.74
Advisor Assistance	1	0.14	0.14	0.09	1.55	0.22
Advisor Timely Response	4	0.31	0.08	0.09	0.86	0.49
Cohort Support	1	0.36	0.36	0.09	4.12	0.04*
Would Recommend	4	0.80	0.20	0.09	2.33	0.06

* $p < 0.05$, $N = 126$, final GPA Sum of Squares Total = 11.28

Table 64

One Way ANOVAs- Social Interaction to Praxis II Core Test Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
Faculty Support	1	51.05	51.05	151.13	0.38	0.56
Instructor Timely Response	2	327.75	163.88	148.40	1.10	0.34
Face to Face Helpful	4	704.43	176.11	146.58	1.20	0.32
Novice Gain Skills	1	60.51	60.51	150.93	0.40	0.53
Advisor Assistance	1	0.74	0.74	152.20	0.04	0.94
Advisor Timely Response	3	141.47	47.16	155.84	0.30	0.82
Cohort Support	1	110.79	110.79	149.86	0.74	0.39
Would Recommend	2	253.66	126.83	150.01	0.85	0.44

$N = 48$, Praxis II Core Test Scores Sum of Squares Total = 7154.12

Table 65

One Way ANOVAs- Social Interaction to Praxis II Content Test Scores

	df	Sum of Squares	Mean Square Within	Mean Square Between	F	p
Faculty Support	1	216.96	216.96	121.48	1.79	0.20
Instructor Timely Response	2	273.41	136.71	122.93	1.11	0.34
Face to Face Helpful	4	290.75	72.69	128.24	0.57	0.69
Novice Gain Skills	1	70.14	70.14	124.68	0.56	0.46
Advisor Assistance	1	154.18	154.18	122.85	1.26	0.27
Advisor Timely Response	3	151.38	50.46	128.50	0.39	0.76
Cohort Support	1	1.82	1.82	126.16	0.01	0.90
Would Recommend	2	163.03	81.52	125.38	0.65	0.53

N=47, Praxis II Content Test Scores Sum of Squares Total=5805.25

Table 66

One Way ANOVAs- Overall Instruction, Advising and Support by Major

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	3.90	2	1.95	0.45	4.33	0.01*
Overall Advising	2.98	2	1.49	0.54	2.77	0.06
Overall Support	2.35	2	1.17	0.54	2.18	0.11

**p=<0.05*

Table 67

One Way ANOVAs- Overall Instruction, Advising and Support by Gender

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	0.08	1	0.08	0.46	0.17	0.68
Overall Advising	0.16	1	0.16	0.55	0.30	0.59
Overall Support	0.01	1	0.01	0.55	0.02	0.88

Table 68

One Way ANOVAs – Overall Instruction, Advising and Support by Race

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	0.68	2	0.34	0.46	0.73	0.48
Overall Advising	0.11	2	0.06	0.55	0.10	0.90
Overall Support	1.11	2	0.55	0.54	1.01	0.36

Table 69

One Way ANOVAs – Overall Instruction, Advising and Support by Age

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	2.60	3	0.87	0.46	1.90	0.13
Overall Advising	4.08	3	1.36	0.54	2.54	0.06
Overall Support	1.01	3	0.34	0.55	0.62	0.60

Table 70

One Way ANOVAs – Overall Instruction, Advising and Support by Work Status

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	1.63	2	0.81	0.46	1.77	0.17
Overall Advising	0.21	2	0.11	0.55	0.20	0.82
Overall Support	1.56	2	0.78	0.54	1.44	0.24

Table 71

One Way ANOVAs – Overall Instruction, Advising and Support by Public School Work Status

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	2.62	1	2.62	0.45	5.77	0.02*
Overall Advising	0.63	1	0.11	0.63	0.54	0.28
Overall Support	0.36	1	0.36	0.54	0.66	0.42

* $p = <0.05$

Table 72

One Way ANOVAs – Overall Instruction, Advising and Support by Connection to Military

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	0.60	5	0.12	0.47	0.26	0.94
Overall Advising	2.63	5	0.53	0.55	0.96	0.44
Overall Support	3.77	5	0.75	0.54	1.40	0.23

Table 73

One Way ANOVAs – Overall Instruction, Advising and Support by Rural Designation

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	0.35	1	0.35	0.46	0.77	0.39
Overall Advising	0.57	1	0.57	0.54	1.04	0.31
Overall Support	0.33	1	0.33	0.54	0.60	0.44

Table 74

One Way ANOVAs – Overall Instruction, Advising and Support by Funding with Own Income

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	1.04	1	1.04	0.46	2.27	0.13
Overall Advising	0.62	1	0.62	0.54	1.13	0.28
Overall Support	0.00	1	0.00	0.56	0.01	0.97

Table 75

One-Way ANOVAs – Overall Instruction, Advising and Support by Funding with Aid/Loan

	Sum of Squares	df	Mean Square Within	Mean Square Between	F	p
Overall Instruction	0.78	1	0.78	0.46	1.70	0.19
Overall Advising	0.39	1	0.39	0.55	0.71	0.79
Overall Support	0.51	1	0.51	0.54	0.93	0.34

APPENDIX C: INSTITUTIONAL REVIEW BOARD APPROVAL



EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board Office
4N-70 Brody Medical Sciences Building · Mail Stop 682
600 Moyer Boulevard · Greenville, NC 27834
Office 252-744-2914 · Fax 252-744-2284 · www.ecu.edu/irb

Notification of Initial Approval: Expedited

From: Social/Behavioral IRB
To: Laura Bilbro-Berry
CC: Crystal Chambers
Date: 1/31/2013
Re: UMCIRB 12-002460
Analysis of Persistence Factors

I am pleased to inform you that your Expedited Application was approved. Approval of the study and any consent form(s) is for the period of 1/31/2013 to 1/30/2014. The research study is eligible for review under expedited category #5. The Chairperson (or designee) deemed this study no more than minimal risk.

Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The Investigator must adhere to all reporting requirements for this study.

The approval includes the following items:

Name	Description
Bilbro-Berry Analysis of Persistence Factors History	Study Protocol or Grant Application

The Chairperson (or designee) does not have a potential for conflict of interest on this study.