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An Exploratory Study into the Nature of the Relationship between Pre-Service Teacher Fixed
Factor Characteristics and edTPA Performance Ratings

TIMOTHY DAVID GOURAIGE

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Submitted in partial fulfillment
of the requirements for the degree of
Doctor of Education in Leadership, Management, and Policy

Seton Hall University
2016

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SETON HALL UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN SERVICES
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APPROVAL FOR SUCCESSFUL DEFENSE

Timothy David Gouraige, has successfully defended and made the required modifications to the text of the doctoral dissertation for the Ed.D. during this Fall Semester 2016.

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Abstract

This study used a quantitative, analytical, non-experimental, explanatory research design. The study used simultaneous multiple regression analysis and analysis of covariance to investigate the factors that may influence the outcome of pre-service teachers' performance on the edTPA, and to contribute to the overall knowledge of edTPA as a pre-service teacher performance assessment. The study explored the relationship between pre-service teacher demographic and academic performance characteristics and his or her edTPA summative performance ratings in an effort to determine if a relationship exists between these fixed factors and student performance on edTPA. Additionally, this study used comparative statistics, specifically ANCOVA, to determine if significant differences existed in student edTPA performance based on school placement and gender while controlling for student demographic and academic characteristics. The data for this study were collected from a pilot of the edTPA at a Midwestern school of education that is participating in the full implementation of edTPA. The study required specific student demographic data. The independent variables used were the students' cumulative GPA, student teacher school placement, free or reduced-price lunch percentage, pre-service teacher's age, whether the pre-service teacher had a Pell Grant or not, pre-service teacher's gender, and whether the pre-service teacher was Caucasian. The dependent variable of this study was the pre-service teachers' edTPA performance percentage scores. The results indicated that pre-service teacher cumulative GPA had a statistically significant relationship with their overall edTPA performance rating score. Furthermore, age of the pre-service teacher had a statistically significant relationship with their overall edTPA performance rating score. The results indicated that the influence of student teacher school placement, free or reduced-price lunch category (STSP FRL categories) was not found to have a statistically

significant impact on the dependent variable edTPA percentage score after controlling for GPA or pre-service teacher age. The results also indicated that the influence of gender was not found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for GPA or pre-service teacher age.

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DEDICATION

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CHAPTER I

INTRODUCTION

Introduction

In his historical exploration of education reform in the United States, Kessinger (2011) credits the 2001 No Child Left Behind (NCLB) legislation as a driving force behind the continued reform efforts of the federal government (Laguardia & Pearl, 2009). Kessinger (2011) describes that the national government has continued what has been a dominant influence over public education, as it increases the requirements expected of states. While this legislation is not without its critics who can argue that this law is not democratic (Laguardia & Pearl, 2009), the NCLB law requires that states “increase standards, insure achievement by means of tests, expect highly qualified teachers, and give evidence of greater accountability” (Kessinger, 2011 p. 274). The law is considered by some to stem from a conservative movement aimed at controlling public policy and from the persistent efforts at an education reform movement that began in response to *A Nation at Risk* (1983) (Kessinger, 2011). The *A Nation at Risk* report (National Commission on Excellence in Education, 1983) was the first in what has ultimately been the repeated critiques over the years of the American educational system and may have led to the last three decades being characterized by education reform efforts (Hildebrandt & Swanson, 2014).

Following NCLB is Race to the Top, a federal grant program initiated by President Obama’s administration as an extension of NCLB (Jahng, 2011). The goal was to further educational reforms by awarding monetary rewards for high-achieving schools volunteering to compete for federal funds (Jahng, 2011). The president believed that Race to the Top would bring about state-level policymaking that was in alignment with his objectives (Howell, 2015). Jahng (2011) summarizes the four educational areas of improvement that successful states would

demonstrate for RTTT: improve standards and assessments, establish effective use of data systems, retain and enhance teacher effectiveness and achieve equity in teacher distribution, and transform low-performing schools (Howell, 2015). The president's administration determined what policies would be rewarded, how many states would receive rewards, and the mechanisms that would be in place to oversee the continued compliance of the states (Howell, 2015).

Race to the Top has not been refunded, and the Every Student Succeeds Act became law after being signed by President Obama on December 10, 2015. This law succeeds its previous version, the No Child Left Behind (NCLB) Act (U.S. Department of Education, 2009). The Every Student Succeeds Act and its predecessor reaffirm the efforts of the federal government behind education reform (Laguardia & Pearl, 2009).

Current school reform efforts across the United States have focused on improving teacher practice and student achievement (Leithwood, Louis, Anderson, & Wahlstrom, 2004; Okhremtchouk, Seiki, Gilliland, Ateh, Wallace, & Kato, 2009). The purposes of one part of the NCLB law is to make grants available to the state agencies for higher education in order to improve student academic achievement through improving teacher quality (No Child Left Behind Act, 2002, p. 196). There is growing evidence that teacher quality is the most significant in-school factor impacting student achievement (Banks, Jackson, & Harper, 2014).

Today, United States' teacher-preparation programs have come under tremendous criticism for their failure to adequately prepare pre-service teachers for the demands of 21st century education (Banks, Jackson, & Harper, 2014). Torgerson, Macy, Beare, and Tanner (2009) reinforce concerns that there has been widespread criticism of traditional teacher-competency assessments for new teachers. Banks, Jackson, and Harper (2014) characterize traditional teacher education programs as preparing pre-service teachers to complete coursework

on psychological principles, subject matter, and methods of teaching before interacting in a meaningful way with pre-K-12 teachers and students. This results in few connections between actual teaching and course content (Banks et al., 2014). Banks, Jackson, and Harper (2014) further state that in order to achieve an education system that meets the need of 21st century learners, especially students in underperforming schools, policymakers and the education community must take collective responsibility for recruiting, preparing, and supporting new teachers.

Teacher performance assessments (TPAs) have been a focus of change efforts, as teacher education programs and education-reform leaders have found merit in how these assessments innovatively assess what teachers know, how they execute teaching, and the learning and reflection that occurs through this method of assessment (Chung, 2008).

Studies specifically exploring portfolio-based teacher performance assessments (TPA) as a measure of a pre-service teacher's ability to teach have typically indicated positive learning outcomes for pre-service teachers (Chung, 2008). Increasingly, states are requiring TPAs as a measure of teacher candidate competency. For over a decade, the state of California has transitioned to requiring teacher performance assessments in order to be certified as a teacher. This is a new time for teacher credential assessments; TPAs are a new approach to assessing pre-service teachers' quality. It is important to explore the efficacy of these assessments (Okhremtchouk et al., 2009).

It would be an abrogation of the responsibility of government to provide free and appropriate public education to students if teacher readiness to teach and advance the learning of their students, from the first day they start their job was not a matter of priority. Performance assessments have been part of numerous individual education programs for years; however, the

current shift has moved toward a standardization of these assessments, based on common teacher expectations within an institution, across states, and across the country (Sato, 2014).

There is skepticism regarding teacher performance assessments and the ability of Embedded Signature Assessment (ESA) type formative assessments to predict pre-service teachers' performance (Sandholtz & Shea, 2012). The concerns are rooted in whether the measures are valid, reliable, and fair. The attempts for the assessment to serve as a catchall for a wide range of purposes makes for extreme complexity in the assessment development for use in any one specific area of measure (Sandholtz & Shea, 2012).

There are also significant concerns regarding the exhaustion of human and financial resources associated with the implementation and development of the TPAs (Sandholtz & Shea, 2012). Pre-service teachers have reported that the performance assessments created a significant burden on them, impacting their student teaching, coursework, and personal lives as a result of the extraordinary program demands (Sandholtz & Shea, 2012). Furthermore, the resources for TPAs are overstretched, which may result in the necessary draw from other teacher education program resources or simply the implementation of a scaled down version of the originally intended TPA program by the university (Sandholtz & Shea, 2012).

Another concern some have is the idea that the performance assessment, because of its standards-based development and alignment with the Teacher Performance Expectations (TPEs), may constrain teacher education curriculums to a narrower focus of what needs to be learned and assessed. This inhibits the teachers' ability to immerse themselves in divergent areas of substance and teacher pedagogy, such as learning instructional strategies that take into consideration the cultural differences in the classroom. In addition, performance assessments

may omit essential areas of study of teacher practice because of the difficulty measuring the performance (Sandholtz & Shea, 2012).

Statement of the Problem

As the demands of teaching across the United States become increasingly more complex and far-reaching in order to meet higher standards and expectations for a more diverse student population, teacher preparation programs are faced with the responsibility of developing more valid measures to assess teacher preparedness to successfully manage the abstract experiences that are inevitable in teaching (Darling-Hammond & Snyder, 2000). Educators and policy-makers are embracing alternative methods to pencil and paper standardized testing to assess pre-service teacher learning and performance. Convinced that multiple-choice conventional standardized testing does not adequately measure the most critical components of pre-service teacher learning and recognizing a disconnect between these assessments and effective teaching, reformers are experimenting with alternatives to assess new teacher preparedness (Darling-Hammond, Aness, & Falk, 1995).

Darling-Hammond and Snyder (2000) explain the lack of predictive validity of standardized paper and pencil multiple-choice tests in assessing teacher effectiveness by making the point that responding to such questions differs greatly from demonstrating the ability to analyze and effectuate the same idea in practice. Darling-Hammond et al. (1995) attribute the expanded use of other forms of assessments to the consensus among educators, researchers, and policymakers that American standardized testing falls short of measuring skills and ability that demonstrate future performance. Conventional standardized tests “do not measure the ability to think deeply, to create, or to perform in any field” (Darling-Hammond et al., 1995, p. 6). While a number of states have adopted teacher performance assessments as a requirement for licensing,

some have done so based on a very limited amount of empirical evidence that supports the efficacy of the specific assessment that is being used (Denton, 2013). Consequently, a rigorous and unbiased examination of these new protocols is essential if schools of education, which are tasked with preparing the nation's new teachers, are going to be required to implement these standards-based performance assessments.

Purpose of the Study

EdTPA is a standardized pre-service performance assessment that is designed to assess whether new teachers are prepared to enter the teaching profession (Hildebrandt & Swanson, 2014). EdTPA claims it is an accurate measure of a teacher's readiness to receive licensure (Stanford Center for Assessment, Learning, and Equity (SCALE), 2013). The purpose of this study was to investigate the factors that may influence the outcome of pre-service teachers' performance on the edTPA and to contribute to the overall knowledge of edTPA as a pre-service teacher performance assessment. I explored the relationship between pre-service teacher demographic and academic performance characteristics and the subsequent edTPA summative performance ratings in an effort to determine if a relationship exists between these fixed factors and student performance on edTPA.

Theoretical Framework

The potential efficacy of the assessments used to determine teacher preparedness can be better understood through the lens of a theoretical framework. This study is rooted in social constructivist theory and situated knowledge theory (Chung, 2008).

The idea that teaching and learning context is important is relevant to social constructivist theory and situated knowledge theory in that knowledge may be confined within the context of how that knowledge is used and that it is inseparable from the activity, context, and culture of

that situation (Gieselman, Stark, & Farruggia, 2000). Gieselman, Stark, Nola, and Farruggia (2000) explain in situated learning theory that learning occurs through “participation in authentic activities that nurture and guide one’s ability to think” (p. 264). This understanding of knowledge has tremendous impact on how we design instructional experiences and activities for learners (McLellan, 1996).

The learner, as a cognitive apprentice, through authentic activities and social interaction, is a part of the social constructivist and situated learning model and conceptualizes the idea behind the authentic learning experiences purported to be the backbone of teacher performance assessments which is explored in this study (McLellan, 1996). Furthermore, the key components of situated knowledge detailed in McLellan (1996)—stories, reflection, cognitive apprenticeship, collaboration, coaching, multiple practice, articulation of learning skill, and technology—are all key components of the teacher performance assessments, which are examined in this study.

Data Identified

A quantitative, analytical, non-experimental, explanatory methodology was used for this study. I selected a Midwestern school of education that is participating in the full implementation of edTPA, which means that the school requires the assessment and sends the completed work offsite for grading. The state has fully implemented the edTPA for all students who were graduating teacher education majors beginning in the fall of 2015. For this study, I used data that were collected by the participating university that has administered a “low-stakes” pilot edTPA assessment. I used the demographic data of the students who had edTPA scores that were included in the study.

Variables

The study required specific student demographic data. The independent variables used were the student's cumulative GPA, student teacher school placement free or reduced-price lunch percentage, pre-service teacher's age, whether the pre-service teacher had a Pell Grant or not, pre-service teacher's gender, and whether the pre-service teacher was Caucasian. The dependent variable of this study was the pre-service teacher's edTPA performance percentage scores. All of the data received had the pre-service teachers' names redacted.

Research Questions

The specific research questions that were addressed in this study are as follows:

Research Question 1: What is the nature of the relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score?

Null Hypothesis 1: There is no significant relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score.

Research Question 2: What is the influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 2: There is no significant influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

Research Question 3: What is the influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 3: There is no significant influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

Significance of the Study

The edTPA is a new standardized national teacher performance assessment that has recently begun to become a requirement in several states to assess teacher readiness for credentialing (SCALE, 2013). Research done on edTPA and what could possibly influence performance on edTPA is extremely limited (Denton, 2013). There is little research explaining the efficacy of the edTPA outside of the indirect data surrounding the Performance Assessment of California Teachers (PACT) (Denton, 2013). It has become widely agreed that the standards and types of measures used to assess teacher preparedness for licensure have been inadequate (Wise & Leibbrand, 2001; Raths & Lyman, 2003). Duckor, Castellano, Tellez, Wihardini, and Wilson (2014) assert that the programs for large-scale assessments for teacher licensure such as the PACT and edTPA require “robust technical documentation coupled with a spirit of ongoing, shared public research” (p.406). This documentation is imperative in order to inform stakeholders of the factors that influence the quality of the teaching profession (Duckor et al., 2014). Establishing a means of using evidence to assess and enhance teacher preparation is a critical topic in American education today (Beare, Marshall, Torgerson, Tracz, & Chiero 2012).

Assumptions

1. The pre-service teachers in the study were appropriately prepared by the university.
2. The placement of the pre-service teachers with the cooperating teacher was done appropriately.
3. The edTPA pilot was administered in accordance with the requirements established by edTPA.
4. The College of Education appropriately collected and stored the data that have been used in this study.
5. The pre-service teacher demographic and performance data stored by the university are accurate.

Delimitations of the Study

1. This was an explanatory study of one university's pilot of the edTPA. EdTPA is the first established national teacher performance assessment in the United States. This focused design investigated data from students attending the participating university.
2. The external validity results from this study can only be generalized to a similar institution from the Midwest.

Limitations of the Study

1. The data that were used were collected from a pilot assessment that was administered, and the students were aware that their performance on the assessment was inconsequential. The high-stakes consequential full implementation of the edTPA at the participating university did not begin until the fall semester of 2015. The edTPA assessment is a newly developed performance assessment that a number of states are considering adopting. These states are currently in the earliest stages of

implementation. A number of individual teacher education programs are piloting the assessment with the understanding that the students' performance on the assessment will not impact their grade point average, graduation, or licensure.

2. There was limited variability in the pre-service teachers' school placement data included in this study. The student teachers' placements were in one metropolitan area. Results cannot be generated for rural and suburban placements.
3. The pilot study sample included transfer students. When a GPA is calculated for a transfer student, it is only calculated on the courses taken in the school into which the students transferred. Therefore, it is possible that the GPA of nearly half of the sample might be inflated since the GPAs of the pre-service teachers were calculated on two years of coursework rather than four years. In the end, this would not have affected the regressions used in this study because the current study examined relationships.

Definition of Terms

Teacher Performance Assessment - An assessment that measures the performance of pedagogical skills required for pre-service teachers to successfully teach and positively affect their students' learning (Torgerson, Macy, Beare, & Tanner, 2009).

Pre-service Teacher - A teacher candidate enrolled in an education program receiving training and preparation before his or her first job (Smith & Ingersoll, 2004).

Student Teacher - A teacher candidate assigned to a school district as an internship or apprenticeship.

Cooperating Teacher - An experienced teacher who mentors a teacher candidate.

Formative Assessments - “A process in which assessment-elicited evidence is used by teachers to adjust their ongoing instructional activities or by students to adjust the ways they are trying to learn something” (Popham, 2009, p. 6).

Summative Assessment - “The use of assessment-based evidence when arriving at decisions about already-completed instructional events such as the quality of a year’s worth of schooling or the effectiveness of a semester-long algebra course” (Popham, 2009, p. 6).

Standardized Test - “Educational tests that are designed to assess students' skills and knowledge in particular subject fields and are to be administered and interpreted in a standard, predetermined manner” (Popham, 2001, p.24).

Socioeconomic Status (SES) - Determined based on the percentage of students in the student teachers’ assigned schools on free or reduced-price lunch.

Organization of the Study

Chapter I is an introduction to and overview of the study. Chapter II includes a review of important literature relevant to the problem statement. Chapter III details the methodology and instrumentation used to collect the data to answer the research questions of the study, and the data analysis procedures that were carried out to measure the data. Chapter IV establishes the findings of the study, and Chapter V provides an in-depth discussion of the results and posits conclusions to the study along with recommendations for policy and for future related studies

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

In their study, The National Commission on Teaching and America's Future (NCTAF) (2010) explained that in order to create a teaching profession that can effectively educate 21st century learners, there is a need for overall dramatic change regarding how we think about teaching. Another driver of education reform is taxpayers' low confidence in the public school's ability to effectively educate their children (Popham, 2009). Low teacher retention in urban and rural districts, low retention of minority teachers, a growing student population, and complex changes to what is being taught in schools has spurred policymakers to revisit new teacher licensing standards and induction programs (Oblebe, 2001).

Federal law under NCLB requires that teachers are "highly qualified." Smith, Desimone, and Ueno (2005) explain that the law requires that all teachers (1) have a bachelor's degree, (2) are fully certified or have a license, and (3) have demonstrated knowledge of the content area that they teach. Darling-Hammond, Berry, and Thoreson (2001) critiqued a study that found a strong, positive relationship between teacher certification and student performance yet still suggested that teacher certification had minimal effect on student achievement. Darling-Hammond, Berry, and Thoreson (2001) forcefully stressed that the effects of certification are indeed significant and have great value. Darling-Hammond, Berry, and Thoreson (2001) call for more responsible approaches to research on the topic of teacher certification with a goal to understanding the different approaches and constructs of teacher certification that exist and the reasons why they work for or against keeping well-prepared educators in the profession. Darling-Hammond, Berry, and Thoreson (2001) attempt to focus research efforts that address the quality

of teacher certification policies on questions of how well the requirements of the policies capture the data of the important areas of teacher practices and effectiveness in classroom instruction.

Darling-Hammond, Berry, and Thoreson (2001) quote Levin (1980) to emphasize the importance of certification and the need for continued research aimed at improving the certification process:

The facts that we expect the schools to provide benefits to society that go beyond the sum of those conferred upon individual students, that it is difficult for many students and their parents to judge certain aspects of teacher proficiency, and that teachers cannot be instantaneously dismissed, mean that somehow the state must be concerned about the quality of teaching. It cannot be left only to the individual judgments of students and their parents or the educational administrators who are vested with managing the schools in behalf of society. The purpose of certification of teachers and accreditation of the programs in which they received their training is to provide information on whether teachers possess the minimum proficiencies that are required from the teaching function. Because this is an exercise in the provision of information, it is important to review the criteria for setting out how one selects the information that is necessary to make a certification or accreditation decision. (p. 7)

Darling-Hammond, Berry, and Thoreson (2001) encourage studies that improve the following: understanding of teaching, how to integrate what is learned into education programs, and how what is learned in these programs can be encapsulated by the state certification process in order to inform schools and to be used to provide direction for training of future teachers.

Purpose of the Literature Review

The purpose of this literature review was to explore and analyze empirical studies that examine teacher performance assessments and provide insight into the effectiveness of the use of

these assessments in determining new teacher preparedness. The intent of this review was to inform all stakeholders (e.g., policymakers, teacher educators, teacher candidates, and the public) along with researchers of the literature regarding teacher performance assessments.

Literature Search Procedure

The reviewed literature for this chapter was acquired through various online databases including EBSCOhost, Proquest, Academic Search Premier, JSTOR, Google Books, and Google Scholar, along with online editions of peer-reviewed journals. The following were the primary keywords and phrases that were used to search for relevant digital resources: teacher quality, teacher performance assessment, authentic assessment, formative assessments, assessment literacy, and summative evaluation of pre-service teachers.

Inclusion and Exclusion Criteria for the Literature Review

The following threshold was established as a criteria for the written works used within this study: (a) peer reviewed journals and government reports, (b) non-experimental studies, (c) relevant and pertinent books on the subject, (d) works that were published since 1990. However, the great majority have been published in the past 15 years. Any work published before 1990 was excluded with the exception of works considered being a seminal piece of literature.

This literature review explored the various research works that were established during a period where education reform had been aimed at achieving greater teacher accountability (Hildebrandt & Swanson, 2014; Popham, 2009). The literature review begins with a discussion of the future demands for teachers and the concerns of retention and attrition of teachers. The literature review makes clear the current demands that pose a challenge to retention and attrition, and raises concerns regarding the responsibilities of teacher preparation programs in regard to retention and attrition.

The review addresses the impact of new teacher induction as well. This is followed by a review of teacher licensure tests history, and an introduction to teacher performance assessments as a quality measure of teacher practice for new teachers. The discussion then turns to assessment literacy. In this section the literature explains the current status of the overall degree to which assessment literacy exists among stakeholders. This section defines assessment and discusses the effects of the integrated use of assessment in instruction. The review then goes on to discuss authentic assessments.

Last, the literature review carefully analyzes various studies and articles addressing large-scale education teacher performance assessments beginning with the California Performance Assessment, The Fresno Assessment of New Teachers, The Performance Assessment for California Teachers, and concludes with the edTPA.

Future Demand for Teachers

Teacher quality has been at the forefront of education reform efforts over the past decade and is increasingly viewed as a pivotal component of student achievement (Allen, 2013). There has been an acute focus on teacher quality as state and federal governments prioritize concerns about teacher performance (Allen, 2013). As a result, mandates have been extended to teacher-education programs' preparation of pre-service teachers (Allen, 2013). The end goal that is argued in support of these reform efforts is to ensure that the most effective teachers are teaching students.

New Teacher Retention and Attrition

These efforts exist along with the reality that teacher attrition has been a concern for many years (Mee & Haverback, 2014). According to the NCTAF study (2010), teacher attrition has grown over the past 15 years, and new teacher attrition has increased over 40% over the last

16 years from the time that these data have been available. Allen (2013) designates the recruitment of top talent for specific content needs, quality preparation, and an ability to retain top talent as being diatomic elements in achieving a high-performing school.

While education programs have a well-documented history of efforts to address quality recruitment by establishing standards of admission and to design curriculum and experiences aimed to prepare pre-service teachers, this is not the case regarding programs' focus on teacher retention and attrition (Allen, 2013). There is consensus that between 40% and 50% of teachers will leave the profession within their first five years (Mee & Haverback, 2014). The teacher's self-efficacy may significantly contribute to their classroom experience, therefore impacting the stress of and the desire to continue teaching (Sass, Seal, & Martin, 2011).

Sass, Seal, and Martin (2011) explain that common factors related to job dissatisfaction are the level of support and the challenges experienced by teachers with students, colleagues, and administration. The conclusion of Mee and Haverback's (2014) study that focused on first year, middle school teachers' perceptions of the impact of commitment and preparation on attrition found that teachers attribute the belief that they will remain in the profession to the preparation in their teacher education program. Conversely, Chapman (1984) found that retention and attrition were more influenced by "the quality of the teacher's first teaching experience" (p. 655) than by the teacher's academic performance or their education program. This raises questions of whether the programs' preparation and the established experiences for students provide the pre-service teachers with authentic insight into what it takes to teach and whether they are prepared to teach (Allen, 2013). Allen (2013) suggested that even the best teacher education programs "may exit graduates too soon and do too little" to ensure teacher retention long enough to establish this learning (p. 76).

New Teacher Induction

New teacher induction is the guidance, mentoring, support, and orientation for beginning teachers during the years that they transition into their first teaching position (Smith & Ingersoll, 2004). Continued professional development (PD) for educators, along with other professionals across other fields, in order to achieve high standards of practice has become universally accepted and expected (Webster-Wright, 2009).

The California New Teacher Project (CNTP) was a pilot program aimed at redesigning the experience for new teachers in their first two years of teaching. The program addressed specific components: teacher mentoring support, curriculum and instruction workshops, and teacher self-assessment. Summarily, the program sought to examine the new teacher support programs and the assessment of new teachers (Olebe, 2001).

The findings of the program and recommendations as outlined in the report, *Success for Beginning Teachers: The California New Teacher Project* (1992) indicated that new teacher performance outcomes were significantly impacted by the supports that were put in place through the experiment as compared to new teachers who did not participate in the program. New teachers' retention rates were also notably high following the project experience. Further, the research indicated that the policies surrounding teacher education and the professional development for new teachers were inadequate in transitioning new teachers from pre-service teacher to classroom teacher (Olebe, 2001). The report recommended the establishment of a system of new teacher support and assessment that included a new teacher orientation to the position, mentoring by experienced colleagues, and feedback regarding the teacher's performance. The recommendations further called for the establishment of a system of new

teacher performance assessments that would include all new teachers in the state of California (Olebe, 2001).

The Success for Beginning Teachers report established the framework of reform across the state of California for the decade following its publication (Olebe, 2001). California legislation also called for a commission to review the policies of credentialing new teachers. In 1997, consensus of coherent standards of quality teaching and quantifiers of what is quality teacher induction became evident when the California Commission on Teaching Credentialing (CCTC) and the California Department of Education (CDE) adopted the California Standards for the Teaching Profession and the Standards of Quality and Effectiveness for Beginning Teachers Support and Assessment programs (Olebe, 2001).

Review of Test History

The use of paper-pencil tests coincides with the publication of the *A Nation At Risk* report and other reports that were critical of pre-service teacher programs and their inability to prepare teachers for contemporary education (D'Agostino & Powers, 2009). The consensus was that teacher education programs were void of rigor, placed too much focus on teaching courses, and taught only a specific set of pertinent approaches to teaching (D'Agostino & Powers, 2009). These concerns motivated states' reliance on teacher tests to protect against poor practice from public school teachers (D'Agostino & Powers, 2009).

During the 1980s, many states established testing performance requirements on basic intellectual skills for individuals seeking admission into teacher education programs (Porter, Youngs, & Odden, 2001). The Pre Professional Skills Test (PPST), a standardized, multiple-choice test that was developed by the Educational Testing Service (ETS) was the most regularly used test to assess basic skills in reading, writing, and mathematics (Porter, Youngs, & Odden,

2001). Some states also developed their own test or adopted tests that met certain criteria (Porter, Youngs, & Odden, 2001). Between 1977 and 1987, there was a significant increase in states requiring that candidates pass tests that could be used in making decisions of initial licensure in basic skills, content-area knowledge, or professional knowledge (Porter, Youngs, & Odden, 2001). While there were considerable discrepancies in the areas tested, what tests were used, and the cut score standards for passing, most states shared in common the use of standardized, multiple-choice tests (Porter, Youngs, & Odden, 2001).

The National Teacher Exams (NTE) were written tests widely used by states from 1940 to 1993 to certify teachers (D'Agostino & Powers, 2009). The NTE common assessment comprised a single 195-minute test consisting of four area scores. The scores addressed professional education, written English expression, science and mathematics, and a weighted score, the Weighted Common Examination Total (WCET) (Egan & Ferre, 1989). From 1940 to 1982, virtually no changes were made to the test (Ayers, 1988). The NTE common assessment was later replaced in 1983 with the NTE Core Battery, which consisted of three 120-minute tests providing scores in communication skills, general knowledge, and professional education (Egan & Ferre, 1989). Egan and Ferre (1989) underscored the significance of the changes to the NTE through The Core Battery test. The changes of The Core Battery which emphasized problem solving and decision making, while continuing to measure the basic academic knowledge assessed in the common assessment, reinforced the need to investigate the previously recognized relationship between chosen predictors and success that were measured through the NTE Core Battery (Egan & Ferre, 1989).

Test requirements for teacher licensure were believed to establish a common expectation of high level academic teaching standards that ensured that pre-service teachers experienced

learning that would develop the complex skills needed to teach effectively (D'Agostino & Powers, 2009). The ETS, the administrator of the NTE dating back to 1951, created the Praxis series that would replace the NTE in the 1990s; and these paper-and-pencil, predominantly multiple-choice tests, continue to be the primary instrument used for teacher certification testing (D'Agostino & Powers, 2009).

In their meta-analysis study, D'Agostino and Powers (2009) investigated the extent to which teacher competence can be predicted based on teachers' test scores and achievement in their teacher education programs, which was measured by their college grade point average (GPA). D'Agostino and Powers (2009) analyzed the findings from 123 studies that produced 715 effect sizes. Considered were the mediating effects of test and GPA type, criterion type, teaching level, service level, and decade of data collection.

D'Agostino and Powers (2009) clarified that they were able to establish considerable variations on a number of variables by selecting studies that addressed the relationship between any teacher test or college GPA and an indicator of teacher performance. The researchers explained that studies that examined overall college GPA, education major GPA, and GPA in methods and student teaching were included. Elementary and secondary school teachers who were in the studies that were included took basic skills, content knowledge, and professional knowledge tests. Measures of their teaching ability were collected during the time that they were enrolled in teacher education programs or during the time that they were in-service teachers.

The researchers went on to explain that in addition to the measures of teaching that were produced through supervisors, the teachers' students, or outside observers, studies were included that defined teacher performance through students' test scores. Most of the studies used specifically for teacher performance through student tests scores used pre-post student gains.

D'Agostino and Powers (2009) reminded readers that data collected this way notoriously produce significant measurement error. Studies were collected that date back as far as 1903 to the decade in which the researchers' study was developed.

While the fundamental goal of this meta-analysis study was to investigate the extent to which teacher tests predict teacher performance and to compare the tests' predictive capacity with pre-service teachers' GPAs, D'Agostino and Powers (2009) found that teacher tests tell us little about teacher performance and that pre-service teacher performance in college is a more accurate predictor of teacher performance. The researchers went on to caution against forming conclusions that teacher tests can serve no purpose in teacher licensure. The researchers made the point that the test may be a useful instrument to drive teacher education programs to prepare pre-service teachers through learning opportunities with a broad set of skills and extensive knowledgebase.

Egan and Ferre (1989) described the purpose of their study: (a) as an exploration of the relationship between the predictors of success already identified and the NTE Core Battery, (b) to create prediction equations contingent on this relationship, and c) to predict the NTE Core Battery test results using these equations. The study collected data from students attending a small Midwestern college at the point that they submitted an application to the College of Education during their sophomore year. The student data included student undergraduate overall grade point average, their American College Test (ACT) subtest scores, and their NTE Core Battery test scores. The study found significant relationships between each of these variables. This suggests that when comparing the results of the NTE Core Battery, despite substantial changes that have been made to the exam, with the results from the NTE common assessments, ACT subtest scores and GPA remain significant predictors of success on both examinations

(Egan & Ferre, 1989). Egan and Ferre (1989) concluded that they developed a regression equation capable of predicting student success on the Core Battery using student information that is available at the time that they apply to the college of education. They further go so far as to recommend that colleges of education using the NTE provide exemptions to students who achieve high enough scores on the ACT.

Ayers' (1988) study examined data from 1984 and 1985 graduates of a teacher education program at Tennessee Technological University in order to investigate the concurrent and predictive validity of the NTE. The concurrent validity was explored through correlations with NTE test scores and the pre-service teachers' scores on the ACT and undergraduate performance (as measured by the graduates' grade point average). The predictive validity of the NTE's ability to predict performance was studied through the relationship between NTE test scores and principal ratings, pupil ratings, and observations of classroom teaching made by independent observers (Ayers, 1988). The overall grade point averages along with the grade point averages for all subjects (social sciences, science, mathematics, English, education, and psychology), the ACT scores, and the NTE scores were used in the study.

The study results indicated that GPA was the best overall predictor of success on the Core Battery in the areas of communication skills and professional knowledge as well as the Elementary Specialty area test of the NTE. There was not a significant correlation in GPA and General Knowledge test of Core Battery of the NTE. The mathematics GPA of the graduates did not correlate with any of the NTE test. The results further indicated a significant correlation between the ACT score and the scores from the four NTE tests. ACT scores were found to be better predictors of success on the NTE than GPA.

The predictive validity assessed in this study through the relationship between the NTE and principal ratings, pupil ratings, and the independent observers' observations of classroom instruction revealed that there was little correlation (Ayers, 1988).

The results of this study were consistent with the previous studies reviewed in this chapter and other studies that examined the prior version of the NTE (Ayer, 1988). The strong correlation between the ACT and GPA and the scores on the revised NTE does not support the use of the NTE as a distinguishing measure. Further, the generally low and not significant correlations between the NTE scores and the principal ratings, pupil ratings, and observational data indicate that at the very least, the test needs improvement as a predictor of teacher preparedness (Ayers, 1988).

Teacher Performance Assessments

The literature supports the contention that there is a relationship between student teacher success and their demographics, clinical placement, and personal academic proficiency. In the study that examined the validity of two pre-service assessment tools as effective predictors of teacher performance, as measured by a subsequent score on a teacher performance assessment, Gimbert and Chesley (2009) attribute the complexity of quantifying effective teaching to the innumerable factors that influence teaching and learning. Gimbert and Chesley (2009) write, "Confounding variables in social, economic, geographic, political, and institutional, arenas make it difficult to develop a uniform prescription for teaching success" (p. 72).

Weisman and Hansen's (2008) study of ten Latino student teachers, who were bilingual in Spanish and English, examined the pre-service teachers' perspectives with regard to their schooling experiences and observations in both suburban and urban schools. The study found that the participants' unique backgrounds affected whether they felt comfortable or marginalized

in their suburban or urban clinical placements (Cook & Cleaf, 2000). The study found that the student teachers' life experiences and their responses to cultural conflicts were influencing factors in their ability to relate to the Latino students and parents. Concerning urban, suburban, and rural student teaching placements, Cook and Cleaf (2000) assert that site selection is a critically important variable to the overall success of the first-year teacher. D'Agostino and Powers' (2009) study found that pre-service teacher college performance, particularly during student teaching, was a better predictor of teacher performance than teachers' scores on paper-pencil teacher tests.

A host of formative performance-based assessments were developed along with summative assessments, which included classroom observations and portfolio assessments. Torgerson, Macy, Beare, and Tanner (2009) found through their research that the traditional measures of teacher licensure had not yielded evidence through research of its validity or ability to assess effective teaching. These performance assessments were designed through collaboration between university faculty, technical assistance contractors, local program directors, and teachers participating in the program. The assessments were grounded in authentic assessment of classroom instruction through standards-based evaluation for the purpose of learning (Olebe, 2001). The performance assessments are supported by growing evidence as a more effective measure of instructional practice than traditional assessments and serve a practical function in learning experiences (Torgerson et al., 2009). The early challenge to change from traditional methods of assessing teacher preparedness to formative performance assessments was the "nature and quality" of formative assessments (Olebe, 2001, p. 79). This was largely a result of the varied local philosophies behind the purpose of the formative assessments and the quality of the assessments used (Olebe, 2001).

With the intention to measure whether new teachers have mastered the Teacher Performance Expectations (TPEs), the CCTC contracted with the Educational Testing Service (ETS) to establish a Teacher Performance Assessment (TPA) (Rocca, 2004). The finished product was the California Teacher Performance Assessment (CalTPA). TPEs are organized to ensure that teachers exhibit the ability to make the material taught to the students understandable, assess what the students have learned, engage and support students, orchestrate and design authentic learning, establish a continuum of an environment for learning, and continue their own professional development (Rocca, 2004). Simply put, these assessments would measure whether pre-service teachers could demonstrate that they have the knowledge and skills to teach; and the assessment would work to allow the pre-service teachers the practice to learn to become better teachers (Rocca, 2004).

Assessment Literacy

Assessment literacy has important relevance to the subject matter addressed in this study. At the heart of this study was our exploration of effective approaches of assessment to assess pre-service teacher performance. With the current nationwide scrutiny of schools (Popham, 2009), it seems prudent to include a discussion of assessments in general due to the fact that assessment literacy has been a focus of reform efforts. TPAs are not without their critics, who argue that these assessments limit teaching and learning and bring big business to education while limiting academic freedom (Hildebrandt & Swanson, 2014). Writing about the teachers' unwillingness to scrutinize K-12 educational accountability testing, Popham (2009) explains that teachers are unwilling to question something that they know so little about. Educating educators in assessments may allow for a more thorough vetting and a more productive discussion surrounding assessments as they relate to teacher performance assessments.

The overwhelming majority of teachers across the United States have limited knowledge of educational assessments (Popham, 2009). Popham (2009) states, “The most obvious explanation is, in this instance, the correct explanation.”(p. 5). This is a result of the fact that very few teacher education programs require coursework in educational assessment literacy (Popham, 2009). Currently, there is a reliance on post pre-service teacher professional development to establish fundamental learning opportunities of educational assessment. Programs have only recently moved to incorporate requirements for pre-service teachers to become more assessment literate (Popham, 2009). Narrow understanding of such a significant domain of learning may play a part in the conflict and misuse of educational assessments overall.

Popham (2009) expands the definition of assessment further than the paper-and-pencil test or formal assessment to include, but not be limited to, teacher-directed questions during discussion, student interviews, self-reflection, and performance assessments. Educational assessments are significant drivers of instructional decision-making (Popham, 2009). Regularly, assessments are categorized into two types: formative and summative assessments (Popham, 2009). Whereas summative assessments are typically used to make decisions about whether someone has passed or failed, formative assessments are intended to encourage ongoing instruction through assessment evidence and may be used by students to better position themselves to improve their learning (Popham, 2009). These adjustment decisions are derived through evidence ranging from student performances through multiple assessments (Popham, 2013). Popham (2013) makes the important distinction of formative assessment, referring to it as a process, a process that may include educational assessments. However, a test would not be considered a formative assessment.

U.S. educators founded formative assessments in 1998 (Popham, 2013). More recently, there has been much discussion on formative assessment, which is now recognized as one of the most impactful approaches to enhancing student learning and motivation (Cauley & McMillan, 2010). Popham (2013) explains that educators have been strongly encouraged to integrate these assessments because research supports that teachers who use these assessment are more likely to instruct effectively. These assessments are most effective because they allow for ongoing adjustments to teaching and learning. They enhance feedback through immediacy; they are more narrowly focused assessments, which better allow for address to specific learning targets; and they are grounded in constructivist theories of learning and motivation (Cauley & McMillan, 2010).

Authentic Assessments

Educational reformers have prioritized a focus on the methods of how educators assess what students have learned (Tanner, 2001). Tanner (2001) explains that the work has begun to explore authentic assessments that reformers are convinced will better measure the essential areas of what the learner is expected to learn and that will improve teaching more than traditional standardized testing has. Supporters of authentic assessment argue that these assessments prepare learners for experiences after the classroom as opposed to conventional approaches to assessment that focus on learners passing a test and that are not accurate predictors of a learner's performance beyond school (Tanner, 2001).

Advocates believe that assessments should require performance that will be effectual after formal schooling (Tanner, 2001). In their study of authentic assessment, Darling-Hammond explains that the assessment is called “authentic” because it requires demonstration of what the student can do outside of the class and in a real world context. The support for

authentic assessment coincides with the idea that multiple-choice pencil-and-paper tests are inadequate, as students merely respond to ideas and recall facts (Darling-Hammond et al., 1995). Unlike traditional pencil-and-paper test, authentic assessments require experiment, research, interpretation, and for students to solve problems in a more practical context (Darling-Hammond et al., 1995).

Several forms of authentic assessment that can be used are portfolio assessments, long-term or short-term task assignments, observation of students at work and learning, product development, and/or evaluating student work samples (Darling-Hammond et al., 1995). Authentic assessments, in many instances, are well integrated into the curriculum to the point that they are seamlessly part of the instruction (Darling-Hammond et al., 1995).

Darling-Hammond and Snyder (2000) shared data collected from education programs that have well-established program practices in authentic assessment of their pre-service teachers. The information was not obtained from randomly selected schools but instead from schools that have extraordinary reputations endorsed by scholars and practitioners working in the field, surveys of alumni and employers, and observations of graduates (Darling-Hammond & Snyder, 2000). Results indicated extraordinary preparedness of the pre-service teacher's ability to service diverse learners effectively. Common amongst these programs was the extensive use of cases, portfolios, exhibitions, and action research inquiries as instruments in assessing and developing teaching performance (Darling-Hammond & Snyder, 2000). One may suggest a weakness of information achieved through programs with such highly regarded and high-achieving students who may succeed despite the program approach. However, Darling-Hammond and Snyder (2000) explain that a second source of the information described in the

article was from literature on assessment in teacher education that evidences practices and potential outcomes of examples of authentic assessment of teaching in education programs.

A question that advocates of authentic assessments encounter is “What exactly are they?” Tanner (2001) explains that often critics of traditional standardized tests define authentic assessments by what they are not. It does not use standardized tests, it does not measure student performance against norm reference, and there is no consideration of traditional test reliability and validity (Tanner, 2001). Tanner (2001) goes on to explain, however, that recently there has been an emergence of more clearly defined criterion-based standards of authentic assessments.

First, there needs to be multiple indicators of quality; i.e., the assessment should consist of a collection of demonstrations of performance over time (Tanner, 2001). A single sample of performance as an assessment is not enough to support sound evidence-based decisions on what is learned, what is taught, program development, or the preparedness of the pre-service teacher (Darling-Hammond & Snyder, 2000). Darling-Hammond and Snyder (2000) stress that while a number of varied samples is essential, it is also necessary for authentic assessments to account for relevant information pertaining to the entire teaching event being evaluated. The assessment should allow the pre-service teachers the opportunity to demonstrate performance practiced differently in varied settings and under changing contexts, differentiating based on student need, and their ability to teach different content (Darling-Hammond & Snyder, 2000). Tanner (2001) further defines the criteria by explaining that the use of judgment reliability is required; i.e., that there needs to be a focus on establishing consistency in assessing multiple performances. This is made difficult because of advocates’ required expectation of significant variations in performance to account for diverse learners, despite common standards (Tanner, 2001). Tanner (2001) further states that a requirement of authentic assessments is attention to what extent

classroom outcomes reconcile students' future experiences. Along with consequential validity, which measures how valid the assessment is based on how well it improves teaching and learning. Related to this, Darling-Hammond and Snyder (2000) suggest that authentic assessments should not only function as a measure of competency but should also work to develop teacher competency through multiple opportunities of practice and learning through the assessment and for feedback and reflection (Darling-Hammond & Snyder, 2000). Last, Tanner (2001) requires consideration of student diversity by making a number of assessment options available for students to demonstrate learning.

Darling-Hammond and Snyder (2000) outline several other features of authentic performance assessment. The assessments include true work sample artifacts; e.g., videotapes of teaching, plans, interviews, reflections, and assessments of student learning (Darling-Hammond & Snyder, 2000). There should be “analyses of teaching, learning, and curriculum or materials” from the pre-service teachers' experiences that may occur both in the classroom during school, or outside of school after hours (Darling-Hammond & Snyder, 2000, p. 527). At the center of these assessments is the analysis of the actual practice of the desired skill through multiple forms of evidence. The phrase commonly used in the United States military to capture this concept is “Train as you fight, fight as you train.”

Next, the assessment should include the integration of interdisciplinary learning experiences that assesses student skills and knowledge in multiple subjects through the education program's assessment. Using traditional assessments separately for each subject may leave students to their own devices piecing together this knowledge, which can result in disjointed learning (Darling-Hammond & Snyder, 2000). The idea behind this is that authentic assessments, measuring the diverse and complex skills and knowledge that are expected of pre-

service teachers, will be embedded into the curriculum, therefore enhancing teacher preparation in a way that is manageable (Darling-Hammond & Snyder, 2000).

The California Teacher Performance Assessment

The CalTPA was designed to be both formative and summative. Formative assessments allow for student encouragement and practical feedback concurrently. Furthermore, they allow for a greater scope of assessing the learning process the student is engaged in beyond the exam and allow for discovery of the missing pieces in what has been learned. Formative assessments allow for immediate address to the learning deficits (Persolja & Burdenski, 2010). As a result of Senate Bill 2042, these assessments were required for pre-service teachers to be credentialed in the state of California, and SB1209 made this law in July 2008 (Torgerson et al., 2009).

Uniquely, the TPA now extended the traditional method of assessing the pre-service teacher to performance-based assessment activities. These activities required teachers to demonstrate that they were prepared for the classroom by active performance (Rocca, 2004). Also, Rocca (2004) expressed the opinion that these were an exciting aspect of the assessments and an effective approach to preparing pre-service teachers. The idea is that pre-service teachers' learning can benefit by capitalizing on real examples of their teaching experiences through materials accumulated, such as video of their teaching, students' work samples, and field notes (Rocca, 2004). Teacher educators may have the opportunity to use these materials to formatively and authentically assess pre-service teacher performance by analyzing these components in the classroom. Teacher educators will be able to work with the pre-service teacher to improve strategies of instruction as well as have the pre-service teacher implement the collaboratively-improved instructional strategies into their field experience in order to reinforce how these techniques can be used in the classroom (Brown, 2009).

An essential use of the performance assessment was to assess whether the pre-service teacher mastered the state's teacher performance expectations (Sandholtz & Shea, 2012). Rocca (2004) explains the four tasks of the CalTPA. In the first task of the CalTPA, the pre-service teacher, through developed scenarios, will exhibit the knowledge of instructional methods appropriate to their specific content. The pre-service teacher will demonstrate abilities in assessment to differentiate for both English language learners and special needs students. In the second task, pre-service teachers are to plan, paying particular focus to English language learners and learners that present an instructional obstacle. Evaluated in this task also is the method employed by the pre-service teacher in gathering the information and how the data will influence the lesson. In the third task, the pre-service teacher will exhibit the ability to choose a specific unit and learning objectives and develop grade-level-appropriate and standards-based assessment activities for a group of students. The pre-service teacher will further demonstrate effective integration for the English language learning students and a student with special needs. The pre-service teacher will score and evaluate data of student learning. For the third task, the pre-service teacher will synthesize gathered data from the assessments and form conclusions of possible future outcomes. Finally, in the fourth task, the pre-service teacher will record an actual lesson that exemplifies their mastery of the skills of the previous three tasks. The pre-service teacher's classroom management, development, and execution of the plan and ability to differentiate for English language learners and special needs students, and the teacher's reflection are all of greatest importance for the fourth task.

Guaglianone, Payne, Kinsey and Chiero (2009) detail a 2008 comparative survey study of 19 California State universities with education programs. In the fall of 2008, at one of the regular quarterly conferences where 22 California State universities met, TPAs were a main topic of

discussion. The universities found remarkable differences in their methods of implementation of the mandated California Teaching Performance Assessment. The study sought to reconcile the differences between the approaches of implementation among the universities by establishing a task force that included representatives with expertise in the assessment. Four southern California and four northern California universities collaborated in carrying out this study. The task force surveyed the 22 universities and received responses from 19 programs. Guaglianone, Payne, Kinsey, and Chiero (2009) caution that the responses to some of the questions may have been speculative because some of the universities had not yet fully implemented the assessment; therefore, some of the responses were estimations or projections. Largely the associate deans responded to the survey; and in some cases the deans, the TPA coordinator, or the assessment coordinator responded.

The study found differences in the universities' approach to staffing in order to coordinate the administration of the assessment. While all of the surveyed respondents indicated that they would have a TPA coordinator, the responsibilities of the role of that person differed; also, who would be assigned to that role varied between the schools. Of the respondents, nine persons indicated a tenured faculty member was assigned to the role of TPA coordinator, five indicated a school administrator was assigned and the remaining campuses reported that the position was assigned to a non-tenured faculty member.

The study also indicated a lack of consensus between the universities regarding the scoring of the assessment as well as a lack of clarity. This was based on the few responses to the questions regarding whether or not, and how much, the scorers or assessors of the assessment would be compensated. Some universities provided paid training, some did not provide compensation, and others did not respond to the question addressing this.

How the programs addressed students who needed to resubmit either part or the entire assessment was inconsistent among the universities. Some allowed students only one resubmission, and others allowed for more. The universities varied in the approach to remediation and requirements of what the pre-service teacher would be required to resubmit.

Further, differences in the technology used by the programs to manage the assessment portfolios and the plans to accommodate the video equipment required by the PACT and CalTPA became evident through the study. These technologies and the previously mentioned differences have substantial cost implications, which is one of the “primary motivations for the creation of the CSU Deans of Education Task Force” (Guaglianone et al., 2009, p. 142). The study indicates responses from the programs that show exhaustive efforts to find creative approaches to fund the assessment mandate under conditions where programs have received very little state funding to support the assessment, and state budgets have included significant cuts to higher education. The study estimates that based on the data achieved through the study, the average cost of full implementation during the 2008-2009 academic year at one of the CSU campuses would be approximately \$171,575. Guaglianone, Payne, Kinsey, and Chiero (2009) indicate an average of 501 students per campus, making the approximate cost per student \$343. The study further estimates a cost of \$3,761,210 for full implementation that would be realized by the CSU system. Guaglianone, Payne, Kinsey, and Chiero (2009) explain that the funding strategies used by programs under desperate conditions where there are no funds earmarked to support the implementation of the assessment are inadequate, could negatively impact the quality of programming and student enrollment, and may not be sustainable.

The most striking aspect to the findings of this study is the differences that exist between the CSU campuses’ implementation of the mandate despite the fact that the CSU campuses

already have an established mechanism of meeting quarterly to address system-wide business issues and to ensure collaboration and common strategies on initiatives across the system. Implementing a TPA initiative could be a particularly daunting task for programs in states planning to adopt TPAs where this type of infrastructure does not already exist.

Today there are three approved TPA models in California: the California Teacher Performance Assessment (CalTPA), the Fresno Assessment of Student Teachers (FAST), and The Performance Assessment for California Teachers (PACT). The CalTPA and the PACT are approved for teacher programs across the state, and the FAST is approved for use at one specific California State University (CSU) campus (Okhremtchouk, Seiki, Gilliland, Ateh, Wallace, & Kato, 2009).

The Fresno Assessment of Student Teachers (FAST)

Torgerson, Macy, Beare, and Tanner (2009) provide a thorough overview of the Fresno Assessment of Student Teachers (FAST). The FAST system is made up of four involved tasks: the Comprehensive Lesson plan, the Site Visitation, Holistic Proficiency, and the Teacher Sample Project. Pre-service teachers complete these four tasks over the span of their training and will measure their performance as it relates to the 13 TPEs. Portfolios that evidence teaching practice through artifacts, performance observations, and problem based scenarios are some of the instruments that education programs have put in place to attempt to place emphasis on the critical attributes of teaching (Darling-Hammond & Snyder, 2000). The FAST measures every TPE twice, against a different format, and within a different teaching context each time. The projects are in alignment with the pre-service teacher's student teaching practicum. Of the four, three are accompanied by a rubric that produces a specific score for each TPA addressed by that task. The Teaching Sample Project is scored by sections that are aligned with identified

TPEs. The scores are scaled from one to four and indicate the following scale: 1 equals “does not meet expectations”; 2 equals “meets expectations”; 3 equals “meets expectations at a high level”; 4 equals “exceeds expectations.”

The Comprehensive Lesson Plan project requires the teachers to respond to questions using their analysis of a provided plan designed for all students of a class primarily constituted of English Learners (Torgerson et al., 2009). Effective teaching of diverse learners requires teachers to identify and build upon each student’s variations in disposition, previous learning and experiences, and cultural background and language (Darling-Hammond & Snyder, 2000). This is a paper/pencil assessment.

The Site Visitation Project requires the pre-service teacher’s supervisor to evaluate the candidate’s plan for an ongoing lesson and their implementation of the plan. The supervisor will measure the quality of the plan design and execution based on student learning. The Holistic Proficiency is a compilation of documented competencies through observations, artifacts, and self-assessments of the pre-service teacher’s growth on each TPE (Torgerson et al., 2009).

Through the Teaching Sample Project, pre-service teachers, during their final student teaching, will be assessed on their ability to plan, teach, and reflect on a unit of study to assess student learning of the unit, and to keep a record of their teaching and student learning (Torgerson et al., 2009). The seven sections of the project are outlined in the *Fresno Assessment Student Teachers Manual* (2008) as follows:

- Student in Context - The pre-service teacher will discuss the impact of student and classroom characteristics on their instructional planning. The candidate will develop an appropriate classroom management plan.

- Content Analysis and Learning Outcomes - Addressing the appropriate standards, pre-service teachers will establish learning outcomes for a unit and draw connections to the state-adopted standards. Pre-service teachers provide a rationale for their chosen focus of learning outcomes.
- Assessment Plan - Adapt or develop assessments that will be used to plan, check student progress, and measure student learning of the learning outcomes.
- Design for Instruction - Provide a summary of lessons that demonstrate planning based on assessments of learning outcomes and that differentiate teaching strategies to meet the needs of all learners.
- Instructional Decision-Making - Provide two examples of instructional decision-making based on students' learning or responses.
- Analysis of Student Learning - Analyze assessment data to assess students' growth toward one learning outcome and show, through a visual representation and narrative, the performance of the entire class and two subgroups within the class.
- Reflection and Self-Evaluation - Reflect on teaching performance and indicate effective instructional strategies while noting suggestions for areas of improvement based on student learning outcomes. Establish goals and actions for professional development achieved through the teaching, assessment and analysis of student learning.

The Teacher Sample Project is the cornerstone of the system and is based on the Renaissance Teacher Work Sample (TWS) (Torgerson et al., 2009).

The Performance Assessment for California Teachers

A consortium of California universities developed The Performance Assessment for California Teachers (PACT) (Okhremtchouk et al., 2009). The two assessment areas of focus are (1) the use of “Embedded Signature Assessments” (ESAs) throughout the teacher preparation program in order to formatively develop the pre-service teacher, and (2) teaching knowledge and skills summative assessment during student teaching (Pecheone & Chung, 2006). This summative assessment is called the “teaching event” (TE).

Embedded Signature Assessments

The ESAs are formative assessments developed through a collaboration of universities identifying and sharing “exemplary curriculum-embedded assessments” (Pecheone & Chung, 2006, p. 24). The ESA assessments extend across programs and address teacher planning of instructional units, student work analysis, and pre-service teacher student teaching observations. Larsen and Calfee (2005) explained the intention behind the design of the ESA to include a formative component of assessment to what has traditionally been measured through a summative assessment only. Pecheone and Chung (2006) explain the purpose of the ESA to be a means of formative feedback for the pre-service teacher and pre-service teacher educators as a source of multiple data points to inform decisions of licensure. It was believed by the PACT contractors that this format uniquely allows for the intermittent and continuous assessment of the pre-service teacher’s competence embedded in the curriculum, therefore providing more accurate and reliable snapshots of data of the pre-service teacher’s growth in ability to teach (Larsen & Calfee, 2005).

The integrated assessments were designed to address the teacher performance expectations and the planning, instruction, assessment, and reflection (PIAR) established by the

PACT developers (Larsen & Calfee, 2005). Larsen and Calfee (2005) emphasized the importance of the ESA's progress in monitoring as students move through California's education studies fifth year program for teacher preparation. The ESA provides evaluative data in short time, allowing for teacher candidates to be counseled towards other careers or to make adjustments to their program. The assessment data from the ESA allow the pre-service teacher's supervisors to gauge where their candidate is in terms of competency before the teaching event and provide regular feedback to the pre-service teacher (Larsen & Calfee, 2005).

Larsen and Calfee (2005) describe the collaboration from participants of the ESA process through a task force that meets quarterly to discuss challenges, share ideas, improve the ESA process, and create a web site that has established a forum for PACT members to share and receive information regarding best practices from the diverse community of participants. As the ESAs attempt to both assess specific areas of programs and establish standardization at the same time, this presents ESA developers with an obstacle in resolving these competing features. Further, and most challenging, is the work to design general rubrics inclusive of the TE, TPE and PIAR models that meet the high standards of coordinated psychometric analysis (Larsen & Calfee, 2005).

The ESA group has worked to address this by establishing the following criteria that were outlined in Larsen and Calfee (2005) for ESA development: (a) address multiple TPEs, (b) connect with one or more PIAR elements, (c) produce significant snapshots of teacher candidate competence, (d) allow assessment at least twice during the credential program, and (e) be systematically, consistently, and efficiently scorable. Consistent with the CalTPA, the ESAs group also included content themes for special needs students, English language learners, use of

technology for instruction, classroom management, and knowledge of ethics and social justice as assessed areas of teacher performance (Larsen & Calfee, 2005).

The scoring of the ESA also presented a challenge because there are a lot of assessments that reach across varied programs, and the assessments needed sufficient standardization to provide valid and reliable information about potential TE outcomes while maintaining its program-specific features. A general rubric was established to address these concerns that included the TPE and PIAR from the TE and that satisfies the PACT psychometric barometer (Larsen & Calfee, 2005). The ESA is not yet an approved assessment but is used by universities as an additional requirement for formalized class assignment.

The Teaching Event (TE)

The Teaching Event (TE) is a standardized capstone assessment. The TE extends across programs but is subject-specific of pre-service teachers' performance ability in planning, instruction, assessment, reflection, and academic language (PIAR). The TE is state approved and is aligned with the state's Teacher Performance Expectations (Sandholtz & Shea, 2012).

In their research Pecheone and Chung (2006) explain that the PACT assessments are derivative of the previously conducted work on assessment development for expert and beginning teachers by the National Board for Professional Teaching Standards and the Interstate New Teacher Assessment and Support Consortium. Pre-service teachers videotape a unit or a part of a unit taught. Pre-service teachers document three to five hours of instruction, typically a week toward the end of their student teaching. Along with the recording, pre-service teachers use completed student work samples, teacher plans, personal commentaries and reflections, and other artifacts in their analysis and self-reflection of their instruction and student learning. The analysis is structured through prompts where pre-service teachers use evidence to support their

decision-making and conclusions as to how the instruction achieved student learning as well as how the analysis of what the students learned affected the immediate instruction and the teaching decisions after reflection.

The TE's purpose extends beyond measuring competency. It was further developed to encourage pre-service teachers' use of their knowledge of students, content, and instructional context to best make informed pedagogical decisions and to motivate their own reflection of teaching practice. The TE also focuses on the pre-service teachers' ability to educate all learners and all types of learners, especially English Language Learners and native English speakers of varieties of English (Pecheone & Chung, 2006).

The Sandholtz and Shea (2012) comparative study used data records from the education programs of two public universities over a period of two years, 2007-2009. The study compared the predictions of field supervisors as to how pre-service teachers would perform on a TPA with pre-service teachers' actual score on the PACT. For the most part, supervisors also scored the assessments for students who were not their own. The scorers participated in a two-day training modeled after the training outlined by the PACT consortium. The analysis included 337 pre-service teachers from both elementary and secondary education. SPSS was used for paired-samples correlations and measurements of frequency of distribution of difference. A strength of the study is that the scorers all successfully completed a calibration test at the end of the scorers' training; and within a short time of the training and calibrating, the predicting and scoring occurred as well. "To the extent policymakers, evaluators, and teacher educators misinterpret the meaning and generalizability of scores derived from large-scale instruments such as the PACT, the potential for unintended consequences multiply" (Duckor et al., 2014, p. 403).

The studies' findings revealed noteworthy discrepancies between the predictions of the supervisors who work closely with these candidates throughout their field experience and the scorers in this study, particularly for high and low performances. Sandholtz and Shea (2012) attribute three factors to the differences. First, the supervisor uses in-person observations and formative assessments to make decisions, while the scorer uses artifacts and written works to make judgments. Second, supervisors formulate judgments through a lens of how the candidate has progressed over time, as opposed to the scorer whose decisions are made in that moment at one time. Last, supervisors are observing the pre-service teachers as they teach through changing situations and need to make immediate adjustments to instruction and to the classroom needs in that moment. The scorers view a pre-packaged teaching segment captured by the candidate through video. All of the differences appear to detail a more involved experience for the supervisor, yet Sandholtz and Shea (2012) explain that the supervisor evaluations have not been discriminating enough, with 95% of students receiving a grade of A (Duckor et al., 2014). The study revealed that there is value in both forms of assessment working in conjunction to determine teacher preparation. Sandholtz and Shea (2012), however, raise the concerns of finance and human resources required for such an implementation, where the supervisor was not eliminated after moving to a TPA for credentialing.

The Duckor, Castellano, Tellez, Wihardini, and Wilson (2014) study of the PACT assessment collected data from seven programs from the University of California and the California State University Systems. The study explored the internal structure of the PACT in search of evidence that the assessment is a valid test of the skills for licensure for elementary literacy teachers. The data consisted of the first attempt TE scores of 1,711 pre-service teachers from the 2008-2009 and the 2009-2010 academic years. The study approached the research

questions in accord with validation studies testing standards of the American Educational Research Association, American Psychological Association, and the National Council on Measurement in Education.

In the first of the two research questions, Duckor, Castellano, Tellez, Wihardini, and Wilson (2014) examine the internal structure validity evidence by investigating to what extent the item responses of the PACT and the pre-service teachers' proficiencies can be modeled using item response measurement models. The study concluded that the model fit the data reasonably well and resulted in high reliability for the assessment overall; i.e., the assessment as a whole could be useful in determining with confidence high-stakes decisions (Wilkerson, 2015).

In exploring the second research question, Duckor, Castellano, Tellez, Wihardini, and Wilson (2014) investigated the potential dimensions or constructs embedded in the PACT TE. The findings indicated that the TE did not provide information about the teachers' skills, abilities, and proficiencies on different aspects of the underlying constructs. The authors suggested that a three-domain model consisting of planning and instruction, which are already included, along with metacognition, should replace the current five-domain model. Metacognition would be the newly named third domain that includes assessment, reflection, and academic language.

Wilkerson's (2015) commentary of the Duckor, Castellano, Tellez, Wihardini, and Wilson (2014) study highlighted the authors' note that there was great interest by stakeholders in the dimensions of performance that are netted in the results of the PACT instrument. Wilkerson (2015) believes that the recommendation of Duckor, Castellano, Tellez, Wihardini, and Wilson (2014) to move from the five-domain model to a three-domain model would move the assessment further away from the standards or domains that the PACT purports to assess,

threatening its validity. Concerns with questions of validity of high-stakes assessments could be problematic when the instrument is used to determine pass/fail for graduates (Wilkerson, 2015).

Wilkerson (2015) stresses that the placement of assessment into a third category of metacognition may result in a diminished emphasis on teacher preparation through PACT and other assessments modeled after the PACT such as the newly developed edTPA. This may diminish the assessment component as critically important at a time when school districts have now placed greater emphasis on assessment (Wilkerson, 2015). In any case, it is the conclusion of Duckor, Castellano, Tellez, Wihardini, and Wilson (2014) that the study provides evidence that there should be greater articulation of the construct definitions, along with more nuanced development of the instrument in order to better assess teachers' practice.

edTPA

EdTPA is a subject-specific TPA, usually administered over the course of the pre-service teacher's student teaching. EdTPA claims to authentically assess teacher performance through three tasks using evidence about planning, instruction, and assessment (SCALE, 2013). Stanford University's Center for Assessment, Learning and Equity, along with the American Association of Colleges for Teacher Education (AACTE), included teacher and teacher educator input from across the country in the assessment development (Hildebrandt & Swanson, 2014; SCALE, 2013). The American Association of Colleges for Teacher Education (AACTE) is a professional organization of teacher education institutions in the United States. Using the PACT as a model, SCALE and AACTE developed this nationwide assessment of pre-service teachers (Sato, 2014). Like the PACT, lesson plans, teaching material, student assignments and assessments, feedback on student work, and video recording of lessons taught serve as evidence of the pre-service teacher's competency, ability to develop academic language, and ability to analyze teaching

(Pecheone and Chung, 2006; SCALE, 2013). The assessment is aligned with the common core state standards and is the first available national educator-constructed TPA (SCALE, 2013).

SCALE (2013) explains that pre-K-12 educators or higher education instructors score the edTPA assessment. All scorers experience approximately 20 hours of training. These educators all have pedagogical content knowledge for the specific area they score as well as experience as teacher educators or mentors. SCALE (2013) reports that validation studies concluded that the assessment is well aligned with the standards, is reflective of the actual practice of teaching, and that the score measures a primary characteristic of effective teaching.

According to SCALE (2013), after an analysis of more than 4,000 scores from the 2013 edTPA field test by content field, grade level taught, and candidate group, differences across fields were minimal, secondary education teachers typically scored higher than middle and elementary, and there was variation in the candidates' mastery of different teaching skills. Similarly to the PACT Pilot results indicated in Pecheone and Chung (2006) and the results of other studies, the score of the edTPA field test revealed that pre-service teachers scored higher on planning and instruction than they did on assessment. This is an indicator of the difficulty teacher candidates experience in learning to evaluate student learning. This is also evidence that assessment, which can be difficult even for experienced teachers, is one of the most challenging domains of teaching (SCALE, 2013).

SCALE (2013) explained that teachers, teacher educators, education organization representatives, and state education policymakers from across the country established cut score standards through a data-based, standards-based process. Individual states were allowed to establish their own passing scores taking into account state data, measurement data, and policy. States may set lower cut scores than recommended by standard constructors and later increase

the threshold. The eventual increase of cut score may occur as programs become better versed in the edTPA process, the support of edTPA activities, and the support of pre-service teachers. Outcomes of the 2013 field test indicated that with the committee-established cut score of 42, there was a passing rate of 58%. SCALE (2013) cautioned that results of the field test might not accurately depict a high-stakes implementation because the assessment was inconsequential and programs were inexperienced in a number of critical areas of implementation such as designing coursework or facilitating clinical experiences for pre-service teachers to exercise assessment-focused skills. During the full implementation of edTPA, SCALE (2013) reported the expectation that passing rates would increase from the field test outcomes.

Proponents of performance assessments point to the greater authenticity of these assessments in assessing the preparedness of new teachers as they compare to the standardized pencil-to-paper multiple-choice assessments (Sato, 2014). Sato's (2014) article examines the underlying conception of teaching of the edTPA notes that the pencil-to-paper tests are removed from the true work of teaching but are most commonly required for licensure. Further, supporters of edTPA contend that the establishment of a valid and reliable common assessment as it relates to agreed-upon pre-service teacher performance, will be a valuable analysis instrument in shaping the progress of teacher education programs (Sato, 2014). EdTPA, however, has been the subject of a significant amount of debate on a national level.

Sato (2014) appears to take on a defense of edTPA when she explains three specific reasons behind the opponents' arguments against performance assessment and the edTPA in particular:

1. The outsourcing of scoring the assessment from higher education institutions to a private corporation that Sato (2014) explains has the business infrastructure to

accommodate a digital platform to store and protect thousands of teacher performance assessments each year and has the capability to hire thousands of teachers and teacher educators to score on a year-round basis. The argument is that the assessment becomes big business and profit-driven, detracting from the ideological intentions such as mentorship and personalized relationships between teacher candidates and teacher educators that are part of the original intentions of the shift to performance assessment.

2. Opponents also argue that the large-scale standardization of the assessment across the country would not account for the unique approaches valued by programs of their teacher preparation. Miller, Carroll, Jancic, and Markworth (2015) describe that high-stakes assessments like the edTPA may limit faculty autonomy and may be seen as a force against teacher education programs' integrity and education goals. Sato (2014) shares the example of a program whose aim is to prepare teachers for the urban context, but an assessment designed to address multiple contexts may fall short on the significantly nuanced areas of that program's pre-service teachers' performance.
3. Opponents also argue whether a required demonstration of established standard core teacher expectation of skill and knowledge should exist as a prerequisite to licensure.

The third point of opposition is the focus of Sato's (2014) article titled, "What is the Underlying Conception of Teaching the edTPA?" Sato (2014) draws on research supporting the idea that teaching can be conceptualized. Sato (2014) explores the following conceptions of teaching: dichotomies of learning being a process of construction and a process of being filled with information, teaching as student-centered and teacher-centered, how epistemological

differences define the impact of teaching as giving-receiving knowledge and personal change, and politics of teaching as a vehicle of oppression and freedom. It is the goal of teacher education programs to develop new teachers who are prepared to exhibit competence in decision-making upon entering the profession (Miller et al., 2015). Sato (2014) confronts concerns that edTPA limits the educational experiences for the pre-service teacher by making the point that these conceptions may be addressed when teaching the edTPA; however, they are not the focus of the assessment. Sato (2014) explains that there is no definitive research finding that any one of these conceptions has greater importance, relevance, desirability, or prove more effective for students than the other. She further states that the determined conception outcome may be decided by values, politics, or tradition (Sato, 2014).

Sato (2014) identifies the underlying conception of the teaching of edTPA as student-content learning. According to Sato (2014), the edTPA focuses its efforts on the expectation of student achievement and the influence teaching has on student learning beyond standardized tests or quantitative measures. The expectations, according to Sato (2014), so long as the pre-service teacher selects content-driven learning goals, do not conflict with or prohibit a pre-service teacher from working within other conceptions by which the assessment score is not affected. Miller, Carroll, Jancic, and Markworth (2015) explain that if teacher education programs take initiative in their response to the assessment mandate by defining what high-stakes tests like the edTPA will look like in their schools and hold onto those things they believe integral and valued by their programs, the faculty may retain significant control. There is an expectation of a shared responsibility by edTPA in the development of the pre-service teacher with education programs as Sato (2014) explains: “. . . yet the assessment depends on the preparation program to instill in its candidates the knowledge, skills, and dispositions to enact this framework, and must guide

them toward whether or not to take the opportunity to present their teaching in such ways” (p. 427).

Indirectly related to this point is Allen’s (2013) study that expands the responsibility of teacher education programs beyond the stage of the students’ pre-service experience to their induction experience after being hired by school districts. Allen (2013) explored a program that established a five-day summer curriculum-writing program for graduates. The program provided professional development and fostered networking for new teachers. Allen (2013) concludes that schools need to create beyond traditional approaches, ways to positively impact the success of new teachers.

In states where edTPA is required for licensure, teacher education programs are faced with the challenge of successfully implementing the high-stakes assessment without “teaching to the test,” while developing well prepared new teachers in areas outside of what is focused on through the edTPA (Miller et al., 2015). Okhremtchouk, Gilliland, Ateh, Wallace, and Kato (2009) cited a Pecheone and Chung (2006) study that surveyed PACT participants which indicated pre-service teachers scored greater results on the PACT when they reported that they felt strongly that their teacher education program prepared them for the teaching event. The edTPA presents teacher candidates with requirements that without purposeful supports may negatively affect the pre-service teachers’ ability to complete their program coursework and may motivate a perception of the assessment as an irrelevant experience (Miller et al, 2015; Okhremtchouk et al., 2009).

In an example of an education program embracing the challenges and limitations of edTPA, Miller, Carroll, Jancic, and Markworth (2015) describes how one school worked within the confines of the acceptable and unacceptable supports outlined by SCALE (2013) to establish

a collaborative experience in the expectation of edTPA for individual candidates to enact ambitious teaching. The program's faculty integrated cooperative learning strategies, creating opportunities for colleagues to advise one another and provide feedback (Miller et al., 2015). Early in the pre-service teacher's experience, the same program immersed the students in learning experiences that engaged them in the work of connecting teaching practice with the core values of the edTPA, values which the program found was aligned with the values and practices of the program (Miller et al., 2015).

A goal of edTPA is to establish a performance criterion supported by the teacher educator community which builds upon what this assessment has begun to do (Sato, 2014). The assessment is designed to authentically assess the teaching performance of a new teacher (Sato, 2014). In an attempt to address the demand for an explanation of validity, Sato (2014) dissects three forms of validity: face validity, content validity, and construct validity, addressed by edTPA.

According to Sato (2014) the edTPA was designed to assess the authentic teaching of the pre-service teacher; therefore, the face validity would be defended by how the instructions of the edTPA and the artifacts collected align with the authentic teaching practices of the pre-service teacher during his or her student teaching assignment. This is attempted by allowing the pre-service teacher autonomy in the lesson planning, collecting artifacts of students' work beyond standardized tests, providing the pre-service teachers opportunities to explain their decision-making within the context of their school, and allowing the pre-service teachers the choice of instructional activities (Sato, 2014).

Regarding content validity, this begs the question; does the instructional task required by the edTPA get to the heart of determining effective teaching? The content assessed within the

edTPA aligns strongly with other educator-driven and empirical research-supported standards of teacher performance expectations (Sato, 2014). The developments of the tasks were influenced by the input of more than 1,000 educators with diverse backgrounds in education. The tasks are focused on planning, instruction, and assessment, all core areas assessed through other commonly used assessments for teacher licensure (Sato, 2014).

The Hildebrandt and Swanson (2014) joint university exploratory study sought to explore the performance of world language teachers on the edTPA. The study combined the data of Illinois State University (ISU) and Georgia State University (GSU) because of the strong similarities between the two universities. Both universities, at the time of the study, were among the largest foreign language teacher education programs in the United States, with an enrollment of approximately 100 attending ISU and 116 attending GSU. The candidates at both institutions were required to complete 6 credits of coursework in pre-K-12 world language methods of instruction. Students at both institutions were further required to complete coursework in technology integration, reading instruction, general foundations of education, and working with diverse student groups. The curriculum and student assignments were designed to address standards-based, proficiency-oriented methods for teachers toward instruction and assessment. The pre-service teachers at both universities were placed in varied student teaching field placements, rural, suburban, and urban pre-K-12 schools. Last, the two universities were accredited regionally and earned accreditation from the National Council for Accreditation of Teacher Education.

The participants of the study were 21 pre-service teachers enrolled in the foreign language program between the two universities. This group represented the entire spring 2014 pre-service teacher enrollment from both institutions. The assessment occurred during the

candidates' student teaching field placement. There were overwhelmingly more females than males at 86%, and with a mean age of 24.88 years. The ages ranged from 21 to 45 years old. The participants were largely Caucasian (67%), next Latino (22%), then African American (11%). The candidates were seeking certification in the following languages: French ($n=1$), German ($n=1$), or Spanish ($n=19$). Most of them reported that they had studied abroad for an average period of four months. The participants' demographics were comparable in terms of gender, ethnicity, and the world language taught, to the national make up of in-service teachers.

The pre-service teachers at ISU submitted their assessment portfolios to external graders with Pearson. GSU conducted a pilot test and scored their participants' assessments locally. The students at GSU submitted portfolios that were then double scored by SCALE-trained personnel within the university. Hildebrandt and Swanson (2014) stressed that the finding that only three of the 65 GSA evaluators' total rubric ratings disagreed is an indicator of high interrater reliability. Further, Hildebrandt and Swanson (2014) stressed the point that other than a scheduled on-campus meeting where the participants critiqued one another's portfolios, the candidates received no support from instructors or supervisors as the students worked on their official edTPA portfolio.

The study results indicated that the participants of the two universities would have met the already established edTPA cut scores of the state of Washington where edTPA was fully implemented, and only two would not have achieved certification in the state of New York where edTPA was also fully implemented. Hildebrandt and Swanson (2014) caution that the established cut scores for certification are consequential. Too low a cut score may lead to the hiring of unqualified candidates, whereas exceptionally high cut scores may exacerbate

challenges of teacher shortages that are experienced in areas of states across the country (Hildebrandt & Swanson, 2014; Ingersoll, 2001).

The study's findings were consistent with that of previously conducted studies of the TPAs in that teachers' performances were stronger on the planning component of the assessment than on the other assessed areas and were noticeably challenged by the assessment component (Pecheone & Chung, 2006; SCALE, 2013). Hildebrandt and Swanson (2014) explain that this may be the result of the fact that pre-service teachers have significantly more educational and practical experiences in planning than they do in assessment. A standalone course in assessment is not required at either of the two programs, as the curriculums at both programs are planning- and instruction-focused.

The study also highlighted that the cost for the pre-service teachers where edTPA is implemented can be burdensome. Expenses "may further discourage prospective teachers, who already struggle with sizable educational debt while preparing for a job that is compensated at about \$36,000 annually at the beginning of a career" (p. 589).

The study's results would have been strengthened if there were a larger pool of participants, and if the scores of the GSU students were scored externally. However, the study did use performance outcomes of students taking the actual edTPA assessment to achieve conclusions of what programs can expect for their candidates. The study provided an indication of how pre-service teachers would perform on already established fully implemented edTPA standards.

Denton's (2013) exploratory case study examined the similarities and differences in the candidates' strategic approach to the edTPA by comparing high-scoring and low-scoring portfolios in order to examine the strategies used for earning points. Of the 74 participants in the

study, 57 were female and 17 were male; all were teacher-education candidates that were enrolled in three different programs. The participants included 33 candidates from an undergraduate program and 41 graduate candidates. The portfolios were submitted for scoring offsite to Pearson Incorporated. Denton (2013) stressed the point that while the candidates did receive some training on edTPA, the portfolios were individually developed in accordance with administrative procedure.

The study compared general strategies used, strategies for planning, strategies for instruction, and strategies for assessment discovered through the submitted edTPA portfolios. The aim was to investigate whether strategies outside of educational theory and acceptable best practices for teaching could positively influence edTPA scores. The study concluded that high-scoring portfolios revealed common tendencies in strategies used that are intended to earn points and to simplify the development of the edTPA portfolio. An example of this general strategy of high-scoring portfolios when compared to low-scoring portfolios indicates that high scorers submitted for scoring the minimum number of lessons required, allowing these candidates more time to strengthen each lesson and to focus on other areas of the assessment (Denton, 2013). High-scoring portfolios also included planning commentary that were more pages than low-scoring portfolios. Denton (2013) emphasizes that the maximizing of commentary for high-scoring portfolios as compared to low-scoring portfolios was consistent through the instruction and assessment commentaries.

Another strategy found that in high-scoring portfolios, candidates submitted student assessments as an artifact of student work samples. Denton (2013) explains that combining the assessment requirement along with the requirement of the student work samples established

greater continuity between planning and assessment tasks. Also, this practice conserves time similar to the strategy where the pre-service teacher submits minimum lessons (Denton, 2013).

A number of the strategies could be considered best practice for teaching; however, Denton (2013) explains that while not violating the policies of edTPA, some of the strategies are designed to score points and simplify the construction of the portfolio and do not improve the preparedness of pre-service teachers, which is the goal of edTPA. Denton (2013) concludes that the candidates' use of these test-taking shortcuts that provide an advantage are unavoidable when performance is linked to consequence.

Summary

The No Child Left Behind Act of 2001 was the catalyst for the current era of accountability in education. Federal and state governments stressed the importance of education policy that allows for the measure and evaluation of teacher effectiveness (Hildebrandt & Swanson, 2014; U.S. Department of Education, 2002). The “highly qualified teacher” is one of the more prominent outcomes of the legislation (Hildebrandt & Swanson, 2014; U.S. Department of Education, 2002). Subsequently, the Race to the Top initiative established criteria that required state policies encouraging improvement in teacher overall effectiveness for states seeking to achieve the federal funding gained through this award (Hildebrandt & Swanson, 2014; U.S. Department of Education, 2009). States needed to remove all barriers to evaluating teacher performance through data of student achievement in order to be eligible to receive funds under the program (Hildebrandt & Swanson, 2014; U.S. Department of Education, 2009). Race to the Top, among other areas of focus, directed efforts on establishing criteria for using data to improve teacher effectiveness through accountability of teacher education programs (U.S. Department of Education, 2009). During this period of accountability, states have adopted

legislation that addresses standards for teacher licensure, with some requiring teacher performance assessments (Hildebrandt & Swanson, 2014; Georgia Professional Standards Commission, 2014; Illinois State Board of Education, 2012).

The fact that nearly half of all teachers will leave the profession within their first five years raises concerns of whether their experiences in their teacher preparation program equipped them for the realities of what it takes to teach (Allen, 2013). In addition to new teacher induction programs that are focused on providing beginning teachers support through orientation and mentorships (Olebe, 2001), increasingly states have required teacher performance assessments for licensure, as studies have not found evidence that traditional measures of teacher readiness are ineffective (Torgeson, Macy, Beare & Tanner, 2009). The shift to integrating authentic assessment in the new teacher licensure process is intended to not only work to assess readiness, but also to operate as an opportunity for pre-service teachers to engage in active learning through the assessment and receive feedback (Darling-Hammond & Snyder, 2000).

It was discovered in the Guaglianone, Payne, Kinsey and Chiero (2009) study that the state of California, which has adopted the TPA as a requirement for teacher licensure, has experienced the challenges of the transition to establishing a common approach to the assessment across universities in a state. Levine (2006) states the following regarding efforts to reform teacher education in order to meet the expectations of achievement for today's learners:

Unfortunately, educators and policymakers disagree fundamentally about how to accomplish the task at hand. There are conflicting and competing beliefs on issues as basic as when and where teachers should be educated, who should educate teachers, and what education is most effective in preparing teachers. (p. 12)

The research suggests that there are concerns with edTPA and other high-stakes assessment of this type regarding the outsourcing of management of the assessment to private corporations (Sato, 2014), the interference edTPA type assessments may run into with the mission of individual universities (Denton, 2013; Sato, 2014), and concerns regarding whether there should be a common core expectation for pre-service teacher licensure (Sato, 2014). There is concern that the United States is lacking a common vision of how to prepare pre-service teachers (Levine, 2006).

The few existing studies examining the edTPA and the larger body of research regarding TPAs that have been outlined in this literature review have corroborated prior studies of TPAs and in general indicate a need for more exploration into education programs preparation of pre-service teachers in the area of assessing students and using assessments to inform practice (Hildebrandt & Swanson, 2014; Pecheone & Chung, 2006; Popham, 2009; Sato, 2014).

The research explored in this literature review indicated a value in using the TPAs as measure of pre-service teacher readiness to teach but that the assessments are not without their limitations (Duckor, Castellano, Tellez, Wihardini, & Wilson, 2014; Sandholtz & Shea, 2012; Sato, 2014). Furthermore, the research indicates that in order to improve the process of teacher licensure, there continues to be a need for research that explores the different methods and developments on the topic (Darling-Hammond, Berry, & Thoreson, 2001). The use of studies that address the effectiveness of the PACT assessment to make decisions regarding the effectiveness of the edTPA is insufficient (Denton, 2013). The two assessments are similar; however, the administrations of the two assessments may have significant differences requiring more complete research of the edTPA (Denton, 2013). This is particularly important due to the

momentous expansion of the edTPA, as 24 states have already adopted the assessment (Denton, 2013).

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

EdTPA professes to be the first nationally available teacher performance assessment that is designed by educators for new teachers entering the profession (SCALE, 2013). The Stanford Center for Assessment, Learning, and Equity (2013) claims that edTPA is a measure of teacher preparedness to teach that informs decisions for licensure within the teaching profession while contributing to pre-service teacher learning and the growth and renewal of teacher education programs. Several states have adopted edTPA as a requirement, and teacher candidates must receive a passing score on the assessment in order to obtain licensure (Miller et al., 2015).

Purpose of the Study

The purpose of this study was to investigate the factors that may influence the outcome of pre-service teachers' performance on the edTPA and to contribute to the overall knowledge of edTPA as a pre-service teacher performance assessment. I explored the relationship between pre-service teachers' demographic and academic performance characteristics and their edTPA summative performance ratings in an effort to determine if a relationship exists between these fixed factors and student performance scores on edTPA.

Organization of the Chapter

This chapter details how I planned to reach the answers to the research questions and null hypotheses of this study. The chapter begins with an introduction that includes a statement of the purpose of the study. I then identify the research questions that were addressed in the study followed by the null hypotheses. Next, I provide a description of the overall design of the study.

Later, the chapter describes the data collection and the data analysis that were utilized in this study. Finally, I describe the instruments that were used and their validity and reliability.

Research Questions

The specific research questions that were addressed in this study are as follows:

Research Question 1: What is the nature of the relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score?

Null Hypothesis 1: There is no significant relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score.

Research Question 2: What is the influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 2: There is no significant influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

Research Question 3: What is the influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 3: There is no significant influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

Research Design

This study used a quantitative analytical, non-experimental, explanatory research design. The study used simultaneous multiple regression analysis and analysis of covariance to investigate the factors that may influence the outcome of pre-service teachers' performance on the edTPA and to contribute to the overall knowledge of edTPA as a pre-service teacher performance assessment. I explored the relationship between pre-service teacher demographic and academic performance characteristics and edTPA summative performance ratings in an effort to determine if a relationship exists between these fixed factors and student performance on edTPA. Additionally, I used comparative statistics, specifically ANCOVA, to determine if significant differences existed in student edTPA performance based on school placement and gender while controlling for student demographic and academic characteristics found to be statistically significant in the regression analysis.

Setting

The data for this explanatory research design were collected from a Midwestern school of education that is participating in the full implementation of edTPA. The university is a public state university that has a student population of approximately 11,000. According to the teacher education department website at this participating university, this particular university's teacher education program offers three undergraduate initial teacher licensure programs for students to be licensed in the state: bilingual education, early childhood education, and elementary education. The teacher education department also offers a Master of Arts initial licensure program to candidates who have a bachelor's degree in a non-teaching area and wish to pursue a license to teach in the state K-8. The department also offers a Master of Science in teaching for candidates seeking to further their learning in education through a master's degree program.

Last, the department offers a teacher licensure program for candidates who already have a bachelor's degree in a non-teaching area and are seeking a license to teach with a master's degree. The National Council for Accreditation of Teacher Education (NCATE) and the State Board of Education of the participating university accredits each of the programs in the teacher education department at this university. The university's website boasts of its 15:1 student-teacher ratio and of its student body being one of the most diverse in the Midwest. The website states that the university has been designated by the U.S. Department of Education as a Hispanic-serving institution. Almost 60% of the student body is Hispanic, Asian, and Native American.

According to the dean at the participating university, The College of Education (COE) began preparing for the implementation of the "high stakes" edTPA in 2012. The State Board of Education mandated that all teacher candidates would have to pass the edTPA in the fall of 2015 in order for the university to recommend them for licensure. This was an unfunded mandate. The State Board of Education selected only three teacher preparation programs in the state to pilot the edTPA, not including the university participating in this study. Faculty in each program at the university began attending workshops and conference sessions to learn about edTPA. Three faculty members at the participating university became edTPA scorers. The university formed an edTPA Work Group in the COE that was co-chaired by their edTPA Coordinator and the COE Associate Dean. Each teacher-preparation program had a designated edTPA Coordinator who helped ensure the integration of edTPA into courses in that preparation program. At the same time this was happening, the university had a federal Teacher Quality Partnership grant to revamp their elementary education program to meet new standards (Common Core, Next Generation Science Standards, etc.), and the university devoted some of this grant money to back-mapping the edTPA into the elementary education program and to send

some faculty to edTPA training. In 2013-2014, the edTPA Work Group drafted policies for implementation, including a process for helping candidates who did not pass the edTPA.

As 2015 approached, the COE Dean was concerned because the university was preparing to implement the “high-stakes” assessment without knowing how their students would perform on the edTPA. The dean discussed concerns with the provost at the university, who agreed to fund a pilot study in the spring of 2015 with all student teachers. The provost paid \$33,000 to purchase Pearson vouchers for each student teacher to submit. Pearson is the vendor that does edTPA scoring and records-keeping for all schools and states using the edTPA assessment system. Teacher education programs may purchase the voucher to be used to provide full or partial credit toward edTPA registration fees for pre-service teachers at the program.

In January 2015, the dean attended the student teaching orientation and explained the circumstances surrounding the edTPA and the edTPA pilot to the candidates. The dean personally asked the student teachers to “pay forward” the subsidized cost of the edTPA pilot assessments by completing an edTPA to the best of their ability. The orientation was attended by what the dean believed to be an unusually large group, nearly 140 student teachers. The dean attributed the large number of students to the candidates seeking to complete their programs before the fall of 2015 when the edTPA would become a requirement for licensure. The dean explained to the candidates that all student teachers were required by the COE to do the pilot edTPA for several reasons: (1) The COE had no data regarding how the student teachers would perform and, given the COE’s conceptual framework, the current student teachers had an obligation to assist the future fall group of student teachers with this “high-stakes” assessment, (2) should they fail student teaching, which has happened, the student teachers would have to repeat in the fall and the candidates would have already had experience with edTPA, (3) the

candidates' experiences would not only inform the COE about how well prepared they were for the edTPA, the COE would better understand the process and the needs (i.e., technology, time, support) of those being assessed by the edTPA.

The COE at the university has a focus on social justice education. It is built into its conceptual framework and woven into all of its courses. The dean explained to the spring semester student teachers that they were obligated to assist in the unfunded edTPA state mandate in a way that would provide those student teachers who come after them with a fair and equitable chance at passing the edTPA by “paving the way” in the pilot. The COE would use what was learned from the pilot group of candidates' experiences to help future student teachers. Finally, the dean “mandated” that submitting an edTPA to Pearson Education was required for passing student teaching. It did not factor into the grade the student received for student teaching; but if the student did not submit an edTPA, he or she received an “incomplete” until the edTPA was submitted.

The participating university administered the pilot edTPA in order to better understand what they needed to do to support their student teachers and supervisors, how they needed to orient the cooperating teacher and principal, and to understand what issues would arise (e.g., technical, substantive) as they would eventually experience the “high-stakes” version of the performance assessment. All of the student teachers were required to participate in the edTPA pilot. According to the dean, the pilot proved to be extremely helpful.

The COE held a meeting with members of the faculty and supervisors at the end of the semester, before the summer session began. The COE presented the general pilot data. The COE then facilitated groups that were established by specific programs within the COE to examine the data. While there were some cases where it was evident that the student teacher did not try to

perform well on the edTPA (i.e., they submitted incomplete edTPAs), faculty members in each program were able to analyze the data and make programmatic and procedural adjustments for the fall implementation. Some programs did extensive analysis. For example, the secondary English/Language Arts faculty members were all local scorers and scored each edTPA in their program and compared their scores to the official scorer's results to assess differences.

According to the dean, it became clear through the data that supervisors and faculty alone could not provide students with the support that they needed within the edTPA rules. The dean then hired two edTPA coaches, 50% time each, to help students. The dean believes that the edTPA coaches have proven to be a positive asset. The coaches hold general help sessions, answer specific questions, hold meetings with students who fail or who get condition codes, and recommend alterations in policy and procedure.

Instrumentation - The edTPA Assessment Tool

The edTPA is a nationally available, educator-designed teacher performance assessment of pre-service teachers' preparedness to teach, assessing pedagogical knowledge and pedagogical content knowledge (Hildebrandt & Swanson, 2014; SCALE, 2013). The subject-specific and performance-based edTPA assesses 27 different teaching fields (SCALE, 2013). The assessment uses evidence collected by the pre-service teachers to assess the candidates on three required tasks as part of the edTPA: (1) Planning Instruction and Assessment, (2) Instructing and Engaging Students in Learning, and (3) Assessing Student Learning. The edTPA uses a series of three to five lessons, referred to as a learning segment, which are developed and submitted by the pre-service teachers during their student teaching or internship placement in order to authentically assess the actual work of teaching (Hildebrandt & Swanson, 2014; Miller et al., 2015; Sato, 2014).

Teacher candidates are assessed through submitting a digital portfolio that includes student work samples, extensive written commentaries addressing each section, lesson plans, samples of instructional and assessment material, and video recordings of segments of the candidate carrying out instruction and interacting with the student to address the lessons' objectives (Hildebrandt & Swanson, 2014; Miller et al., 2015; Sato, 2014). The pre-service teachers' edTPA performance is scored by trained scorers using a standard of 15 or 18 analytic standardized rubrics applied to each of the three major tasks, with each rubric ranging from Level 1, the lowest, to Level 5, the highest (Hildebrandt & Swanson, 2014; SCALE, 2013). The total assessment scores can range from 15 to 75 when using 15 rubrics, and 15 to 90 when using 18 rubrics. The process of scoring and reporting is managed by Evaluation Systems, a division of Pearson, which distributes the edTPA and manages the digital platform in which they reside (SCALE, 2013).

The Dependent/Outcome Variable: Instrumentation, Validity, and Reliability

More empirical research is needed in order to establish whether the edTPA measures its purported measures and to establish its construct validity (Sato, 2014). Sato (2014) explains that the Stanford Center for Assessment, Learning, and Equity carried out an analysis of the internal structure of the edTPA tasks utilizing factor analysis and detailed its finding in a summary report in 2013.

The Stanford Center for Assessment, Learning, and Equity (2013) explains its analysis for validity and reliability as essential to any performance program. The report goes on to explain that the analysis of the edTPA as a measure of pre-service teachers' preparedness to teach has been a regular part of its multi-year development process. Efforts to develop the edTPA were carried out under the guidance of persons with expertise in psychometric practices

and procedures. The report states that the developmental process has resulted in evidence of the assessments' validity, reliability, and its use for teacher licensure, teacher education program accreditation, and pre-service teacher completion of preparation programs.

The report explains the work on assessing the validation of the edTPA. This work provided evidence that the content of the edTPA is related to the essential knowledge, skills, and abilities that are required for teaching (SCALE, 2013). This work included educator feedback rating the importance, alignment, and how well the knowledge and skills required for each rubric and the rubric itself relates to the national pedagogical and content-specific standards. Furthermore, the report indicates that through analysis of the pre-service teachers' score on the edTPA, the findings support the hypothesis that the edTPA task structure measures the specific tasks of teaching and that the three different tasks are internally related structurally (SCALE, 2013).

The Stanford Center for Assessment, Learning, and Equity (2013) found the level of reliability to be high. This was determined through analysis of the inter-rater agreement rates resulting from the 10% of randomly selected assessments. A second independent scorer scored the assessments, and the analysis of the overall variability among scores of the pre-service teachers' was small. According to The Stanford Center for Assessment, Learning, and Equity (2013), the fact that the differences across scorers was small when the edTPA in practice is a highly complex assessment supports the consistency of edTPA scores. The Stanford Center for Assessment, Learning, and Equity (2013) likens the level of reliability of the edTPA assessment to other well-established assessments such as the National Board Certification and to scoring of open-ended tasks like the Advanced Placement essays and portfolios.

Sample and Data Collection

The dean coordinated arrangements for a graduate student to adapt a database to meet the needs of this study. I provided the graduate student with clear directions about how I wanted the data collected and stored. The COE had the demographic information of the assessed students along with the student teachers' edTPA scores. The graduate student coded the data. The graduate student also removed names of the student teachers and assigned them identifying codes.

The public state university has a student population of approximately 11,000 students. The population included in this study was 112 student teachers from the university's teacher education program. While the assumption was that there may be more males than most comparable teacher education programs, there were disproportionately more female participants in the edTPA pilot study than males. The participants were from the following areas: early childhood, elementary education, special education, the K-12 areas (PE, art, music, Spanish), and secondary (English, history, math, science).

The program did not break down the placements of the student teachers by rural, suburban, or urban. Overwhelmingly, the sample population was assigned to schools in the city or in the immediate surrounding area. There were no assignments that would be considered a rural area. I did, however, have access to the demographics. All of the demographic data were stored in a database and were coded for the purpose of this study. In order to not confound the data in what could be considered a complex metropolitan area where the student teachers were assigned to schools, I used socioeconomic status to define the parameters of the student teachers' placements. Because there was no real demarcation, it was decided to collect data for each

student teacher indicating the percentage of students at their assigned placement school who received free or reduced-price lunch. The edTPA data were submitted without student names; therefore, study identification numbers were assigned.

The data included students' cumulative GPA, major GPA, school placement FRL % which indicated the percentage of students at their assigned placement school that received free and reduced-price lunch, gender, age, ethnicity, whether the student received a Pell grant or not, and the student edTPA score (see Table 1).

Table 1

Variables and Names of Independent Variables

Variable	Label	Description
Cumulative Grade Point Average	GPA	Overall pre-service teacher grade point average
Major Grade Point Average	Major GPA	Major grade point average of the student teacher
Student Teaching School Placement Percentage of Free and Reduced-price Lunch	STSP FRL%	Percent of students in the student teachers' placement schools with free or reduced-price lunch
Gender	M/F	Sex
Age	Age	Age
Ethnicity	Ethnicity	Ethnicity
Pell Grant or No Pell Grant	Pell	Did the student receive a Pell Grant?
edTPA Score	edTPA Score	Student teacher edTPA score

Data Analysis

Initially, simultaneous multiple regression was used to determine if there is a significant relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score. Additionally, I created a range that designated

three distinct categories to identify student teaching placement. An analysis of covariance (ANCOVA) was then used to assess whether significant differences existed in pre-service teachers' edTPA scores based on student teacher school placement, which was defined as the percentage of students on free or reduced-price lunch for the assigned school while controlling for student demographic and academic characteristics. Last, an analysis of covariance (ANCOVA) was used to assess whether significant differences existed in pre-service teachers' edTPA scores based on gender while controlling for student demographic and academic characteristics.

Summary

This chapter explains how I planned to reach the conclusions to the research questions and null hypotheses of this study. In this chapter, I detailed the statement of the purpose of the study, and identified the research questions that were addressed, along with the null hypotheses. The description of the overall design of the study, data collection, the data analysis, and the instruments that were used and their validity and reliability were provided.

Chapter IV will provide a thorough analysis of the data and an objective reporting of the results in order to facilitate answering the research questions posited by this study.

CHAPTER IV

ANALYSIS OF THE DATA

Introduction

The purpose of this study was to investigate the factors that may influence the outcome of pre-service teachers' performance on the edTPA and to contribute to the overall knowledge of edTPA as a pre-service teacher performance assessment. I explored the relationship between pre-service teacher demographic and academic performance characteristics and his or her edTPA summative performance ratings in an effort to determine if a relationship exists between these fixed factors and student performance on edTPA.

Research Questions

A quantitative, analytical, non-experimental, explanatory methodology was used to answer the following research questions:

Research Question 1: What is the nature of the relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score?

Null Hypothesis 1: There is no significant relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score.

Research Question 2: What is the influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 2: There is no significant influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

Research Question 3: What is the influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 3: There is no significant influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

Organization of the Chapter

This chapter details the analysis and the results of the research questions and hypotheses of this study. The chapter begins with an introduction that includes a statement of the purpose of the study. I then identify the research questions that were addressed in the study followed by the null hypotheses. Next, I provide descriptive statistics of the sample followed by the analysis and results. Finally, I provide a summary of the conclusions.

Results

A total of 112 pre-service teachers were included in the analysis. The dependent variable used for this study was edTPA performance percentage scores. Percentage scores were used in order to account for the fact that the candidates' edTPA performance was scored using either 15 or 18 rubrics applied to each of the three major tasks, with each rubric ranging from Level 1, the lowest, to Level 5, the highest (Hildebrandt & Swanson, 2014; SCALE, 2013). The mean edTPA score of the 90 pre-service teachers assessed using the 15 rubrics was 38.93, with a standard deviation of 8.96 (see Table 2). The mean edTPA score of the 22 students who were

assessed using the 18 rubrics was 47.68, with a standard deviation of 9.45 (see Table 3). The total assessment scores can range from 15 to 75 for pre-service teachers who are assessed using an aggregation of the sum of the 15 rubrics, and from 18 to 90 for candidates assessed using 18 rubrics (Hildebrandt & Swanson, 2014; SCALE, 2013). The state board of education of the participating university has established edTPA cut scores for the period of September 1, 2015, through August 31, 2016 (see Table 4).

Table 2

Descriptive Statistics of edTPA Scale Score for 15 pt. Rubric

	N	Minimum	Maximum	Mean	Std. Deviation
edTPA Score	90	18.00	56.00	38.9333	8.96911
Valid N (listwise)	90				

Table 3

Descriptive Statistics of edTPA Scale Score for 18 pt. Rubric

	N	Minimum	Maximum	Mean	Std. Deviation
edTPA Score	22	27.00	62.00	47.6818	9.45358
Valid N (listwise)	22				

Table 4

edTPA Cut Scores September 1, 2015, through August 31, 2016

13- Rubric Fields	15- Rubric Fields	18-Rubric Fields
31	35	41

A separate scale score was developed in order to include all students' scores in the analysis and served as the primary dependent or outcome variable (edTPA Pct Score). This was accomplished by taking the students' edTPA raw aggregate performance score and converting it

to a percentage score. To convert the scores to percentage, the total edTPA raw aggregate performance score of the students who were assessed using the 15 rubrics was divided by 75 and multiplied by 100. The total edTPA raw aggregate performance score of the students who were assessed using the 18 rubrics was divided by 90 then multiplied by 100.

The independent variables included in this study were cumulative GPA, student teacher school placement free lunch percentage, age, gender, whether the student was Caucasian, and whether the student received a Pell Grant. The mean cumulative GPA of the sample was 3.59 with a standard deviation of .32 (see Table 5). The mean student teacher school placement percentage of free or reduced-price lunch was 69.82% with a standard deviation of 31.48 (see Table 5). The mean age of the student teachers was 29.75, with a standard deviation of 6.82 (see Table 5). The youngest candidate was 20 years of age and the oldest 54 (see Table 5). Twenty-six of the candidates were male, and 86 were female (see Table 7). Sixty-four of the pre-service teachers were Caucasian (see Table 8). Thirty-five of the student teachers received a Pell Grant (see Table 9). The mean of the dependent variable edTPA percentage score was 52.12 with a standard deviation of 11.65.

Table 5

Descriptive Statistics of All Categorical Data

	<i>N</i>	Minimum	Maximum	Mean	Std. Deviation
Cumulative GPA	112	2.62	4.00	3.5971	.32973
Major GPA	112	2.80	4.00	3.7521	.28715
Student Teacher School Placement FRL %	112	.00	100.00	69.8269	31.48300
Age	112	20.00	54.00	29.7500	6.82272
edTPA Pct Score	112	24.00	74.67	52.1213	11.65046
Valid <i>N</i> (listwise)	112				

Table 6

Frequencies Statistics

	Pell Grant	Caucasian	Gender	STSP FRL Categories
N Valid	112	112	112	112
Missing	0	0	0	0
Mean	.3125	.5714	.7679	2.2321
Median	.0000	1.0000	1.0000	2.0000
Mode	.00	1.00	1.00	3.00
Std. Deviation	.46560	.49710	.42410	.80519

Table 7

Frequency Table, Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	26	23.2	23.2	23.2
Female	86	76.8	76.8	100.0
Total	112	100.0	100.0	

Table 8

Frequency Table, Caucasian

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Not Caucasian	48	42.9	42.9	42.9
Caucasian	64	57.1	57.1	100.0
Total	112	100.0	100.0	

Table 9

Frequency Table, Pell Grant

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Pell Grant	77	68.8	68.8	68.8
	Pell Grant	35	31.3	31.3	100.0
	Total	112	100.0	100.0	

Table 10

Frequency Table, STSP FRL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-47%	26	23.2	23.2	23.2
	48-79%	34	30.4	30.4	53.6
	80-100%	52	46.4	46.4	100.0
	Total	112	100.0	100.0	

Research Question 1: Analysis and Results

Research Question 1: What is the nature of the relationship between a pre-service teacher’s demographic and academic characteristics and his or her overall edTPA performance rating score?

Null Hypothesis 1: There is no significant relationship between a pre-service teacher’s demographic and academic characteristics and his or her overall edTPA performance rating score.

A simultaneous multiple regression was run to answer the first research question. The purpose was to determine the nature of the relationship between the independent variables cumulative GPA, student teacher school placement free or reduced-price lunch percentage, pre-service teacher’s age, whether the pre-service teacher had a Pell Grant, pre-service teacher’s gender, and whether the pre-service teacher was Caucasian and the dependent variable student

teachers' overall edTPA performance percentage score. In the original regression that was run, major GPA was included. There was a high correlation between cumulative GPA and major GPA, which caused multicollinearity issues. Also, the variable major GPA was not found to be a statistically significant predictor. For these reasons, major GPA was removed and cumulative GPA was included in the regression analyses instead and served as the fixed factor proxy for student academic achievement

Regarding the rule of power for regression analysis, Field (2013) explains that the larger the sample of cases, the stronger the model. The estimated R is based on the number of predictors (K) and the sample size (N). With a regression that includes six independent variable categories and a sample size of one 112 cases, the expected R ($K/(N-1)$) of this model is .054. The aim for random data is for the expected R to equal 0 or have no effect (Field, 2013). The model used in this study meets the acceptable threshold for regression power to run this regression analysis (Field, 2013). Furthermore, the sample size also met the suggested minimum sample size standard to predict individual and combined predictors ($104 + K$), with a sample size exceeding 110 (Field, 2013).

The model includes 112 pre-service teachers. In Model 1, the value of R squared is .182, which indicates that 18.2% of the variance in student teachers' overall edTPA performance score can be explained by cumulative GPA, student teacher school placement free or reduced-price lunch percentage, pre-service teachers' age, whether the pre-service teacher had a Pell Grant, pre-service teachers' gender, and whether the pre-service teacher was Caucasian or not. The adjusted R square is .135, which indicates that the independent variables would contribute to 13.5% of the variability in this regression model with respect to the population from which the

sample was drawn. The Durbin-Watson score was 1.437. This indicates that the residuals of the variables were not related and this assumption for regression was met (see Table 12).

Table 11

Variables Entered/Removed in Model 1

Model	Variables Entered	Variables Removed	Method
1	Caucasian, Pell Grant, Gender, Cumulative GPA, Student Teacher School Placement FRL %, Age ^b	.	Enter

a. Dependent Variable: edTPA Pct Score

b. All requested variables entered.

Table 12

Model 1 Summary for edTPA Percentage Score

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.426 ^a	.182	.135	10.83711	1.437

a. Predictors: (Constant), Caucasian, Pell Grant, Gender, Cumulative GPA, Student Teacher School Placement FRL %, Age

b. Dependent Variable: edTPA Pct Score

Table 13

Model 1 ANOVA Table for edTPA Percentage Score

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2734.871	6	455.812	3.881	.002 ^b
	Residual	12331.504	105	117.443		
	Total	15066.375	111			

a. Dependent Variable: edTPA Pct Score

b. Predictors: (Constant), Caucasian, Pell Grant, Gender, Cumulative GPA, Student Teacher School Placement FRL %, Age

Examination of the standardized coefficients (see Table 14) indicates that there were two statistically significant predictors. All of the tolerance values were higher than .574; therefore, multicollinearity was not an issue between predictors. Cumulative GPA was statistically significant ($t = 3.984, p < .001$), a standardized beta (β) of .358. The beta is positive, which means the higher the pre-service teachers GPA, the greater the edTPA performance percentage they achieved. It contributed 12.8% of the explained variance to the model.

Age of the pre-service teacher was also a statistically significant predictor of the pre-service teachers' edTPA percentage score ($t=2.141, p < .001$), a standardized beta (β) of .202. The beta is positive, which means the older the candidates were, the higher the edTPA percentage score. It contributed 4% of the explained variance to the model.

The independent variables gender, Pell Grant, and student teacher school placement free lunch percentage were not found to be statistically significant. Between the two statistically significant variables, cumulative GPA was the strongest predictor of student edTPA percentage scores.

Table 14

Coefficients Table for edTPA Percentage Score

Model	Unstandardized Coefficients		Standardized Coefficients Beta	<i>t</i>	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1 (Constant)	-3.576	13.306		-.269	.789		
Cumulative GPA	12.654	3.176	.358	3.984	.000	.965	1.037
Student Teacher School Placement FRL %	.005	.034	.013	.140	.889	.940	1.064
Gender	-1.813	2.560	-.066	-.708	.480	.898	1.114
Age	.346	.161	.202	2.141	.035	.872	1.147
Pell Grant	-.256	2.281	-.010	-.112	.911	.938	1.066
Caucasian	1.818	2.142	.078	.849	.398	.933	1.072

a. Dependent Variable: edTPA Pct Score

The first research question and null hypothesis were as follows:

Research Question 1: What is the nature of the relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score?

Null Hypothesis 1: There is no significant relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score.

Through the analysis, the null hypothesis for this research question was rejected. Pre-service teachers' cumulative GPA had a statistically significant relationship with their overall edTPA performance rating score. Furthermore, age of the pre-service teachers had a statistically significant relationship with their overall edTPA performance rating score.

Research Question 2: Analysis and Results

Research Question 2: What is the influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 2: There is no significant influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

An analysis of covariance (ANCOVA) was used to answer the second research question. The purpose was to assess whether the influence of student teacher school placement free or reduced-price lunch category (STSP FRL categories) was found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for GPA. The STSP FRL categories ranged from 0-47%, 48-79%, and 80-100%, which designated three distinct

categories. Twenty-six candidates were assigned to schools where the percentage of students on free or reduced-price lunch was between 0%-47%. These candidates accounted for 23.2% of the sample population. Thirty-four of the pre-service teachers were assigned to schools where the percentage of students on free or reduced-price lunch was between 48%-79%. This group accounted for 30.4% of the sample population. Finally, 52 candidates were assigned to schools where the percentage of students on free or reduced-price lunch was between 80%-100%. This group of pre-service teachers account for 46.4% of the sample (see Table 10).

Preliminary analysis was run to determine if the main effect (STSP FRL categories) and the covariate (cumulative GPA) interacted in order to determine if the homogeneity of the regression slopes assumption was met. The analysis revealed no interaction between the main effect (STSP FRL categories) and the covariate (cumulative GPA) so the assumption of the homogeneity of the regression slopes was met $F(2,106) = 2.460, p > .090$ (see Table 15).

Table 15

*Tests of Between-Subjects Effects to Test for Interaction, STSPFLCAT*GPACum*

Dependent Variable: edTPA Pct Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2468.349 ^a	5	493.670	4.154	.002
Intercept	.200	1	.200	.002	.967
stspfrlcat	562.934	2	281.467	2.368	.099
gpacum	1680.837	1	1680.837	14.143	.000
stspfrlcat * gpacum	584.699	2	292.349	2.460	.090
Error	12598.026	106	118.849		
Total	319329.384	112			
Corrected Total	15066.375	111			

a. R Squared = .164 (Adjusted R Squared = .124)

In the ANCOVA analysis (Table 16), the results indicated that when controlling for GPA, there are no statistically significant differences in students' edTPA performance scores based on school placement free or reduced-price lunch categories, $F(2, 108) = .130, p > .878$, partial $\eta^2 = .002$ (see Table 16).

Table 16

Test of Between-Subject Effects, GPA

Dependent Variable: edTPA Pct Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Corrected Model	1883.650 ^a	3	627.883	5.144	.002	.125	15.432	.915
Intercept	39.042	1	39.042	.320	.573	.003	.320	.087
gpacum	1767.818	1	1767.818	14.483	.000	.118	14.483	.965
stspfrlcat	31.822	2	15.911	.130	.878	.002	.261	.070
Error	13182.725	108	122.062					
Total	319329.384	112						
Corrected Total	15066.375	111						

a. R Squared = .125 (Adjusted R Squared = .101)

b. Computed using alpha = .05

A second ANCOVA was used to assess whether the influence of student teacher school placement free or reduced-price lunch category (STSP FRL categories) was found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for the age of the pre-service teacher.

Preliminary analysis was run to determine if the main effect (STSP FRL categories) and the covariate (age) interacted in order to determine if the homogeneity of the regression slopes assumption was met. The analysis revealed no interaction between the main effect (STSP FRL categories) and the covariate (age) so the assumption of the homogeneity of the regression slopes was met $F(2,106) = 2.590, p > .080$ (see Table 17).

Table 17

*Tests of Between-Subjects Effects to Test for Interaction, STSPFRLCAT*Age*

Dependent Variable: edTPA Pct Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1319.687 ^a	5	263.937	2.035	.080
Intercept	8397.505	1	8397.505	64.753	.000
stspfrlcat	683.990	2	341.995	2.637	.076
Age	703.198	1	703.198	5.422	.022
stspfrlcat * age	671.645	2	335.823	2.590	.080
Error	13746.688	106	129.686		
Total	319329.384	112			
Corrected Total	15066.375	111			

a. *R* Squared = .088 (Adjusted *R* Squared = .045)

In the ANCOVA analysis (Table 18), the results indicate that after controlling for pre-service teacher age, the influence of student teacher school placement free or reduced-price lunch categories on edTPA performance percentage score was not statistically significant, $F(2, 108) = .367, p > .694$, partial $\eta^2 = .007$ (see Table 18).

Table 18

Test of Between-Subject Effects, Age

Dependent Variable: edTPA Pct Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Corrected Model	648.042 ^a	3	216.014	1.618	.189	.043	4.854	.415
Intercept	9946.346	1	9946.346	74.503	.000	.408	74.503	1.000
Age	532.210	1	532.210	3.986	.048	.036	3.986	.508
stspfrlcat	97.925	2	48.963	.367	.694	.007	.734	.108
Error	14418.333	108	133.503					
Total	319329.384	112						
Corrected Total	15066.375	111						

a. R Squared = .043 (Adjusted R Squared = .016)

b. Computed using alpha = .05

Based on this analysis, the null hypothesis for this research question was retained. The influence of student teacher school placement free or reduced-price lunch category (STSP FRL categories) was not found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for GPA or pre-service teacher age.

Research Question 3: Analysis and Results

Research Question 3: What is the influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 3: There is no significant influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

An analysis of covariance (ANCOVA) was used to answer the third research question. The purpose was to assess whether the influence of gender was found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for GPA. The mean edTPA percentage score for the twenty-six male pre-service teachers was 54.58 with a standard deviation of 12.63 (see Table 19). The mean edTPA percentage score for the eighty-six female pre-service teachers was 51.37, with a standard deviation of 11.30 (see Table 19). Finally, the mean edTPA percent score for the entire sample population was 52.12, with a standard deviation of 11.65 (see Table 19).

Table 19

Descriptive Statistics for edTPA Percentage Score by Gender

Gender	Mean	Std. Deviation	N
Male	54.5815	12.63698	26
Female	51.3776	11.30804	86
Total	52.1213	11.65046	112

A preliminary analysis was run to determine if the main effect (gender) and the covariate (cumulative GPA) interacted in order to determine if the homogeneity of the regression slopes assumption was met. The analysis revealed no interaction between the main effect (gender) and the covariate (cumulative GPA) so the assumption of the homogeneity of the regression slopes was met $F(1,108) = .185, p > .668$ (see Table 20)

Table 20

*Test of Between-Subjects to Test for Interaction, Gender * GPACum*

Dependent Variable: edTPA Pet Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2135.645 ^a	3	711.882	5.946	.001
Intercept	7.082	1	7.082	.059	.808
Gender	11.319	1	11.319	.095	.759
gpacum	1305.202	1	1305.202	10.901	.001
gender * gpacum	22.143	1	22.143	.185	.668
Error	12930.731	108	119.729		
Total	319329.384	112			
Corrected Total	15066.375	111			

a. *R* Squared = .142 (Adjusted *R* Squared = .118)

In the ANCOVA analysis (Table 21), the results indicated that when controlling for GPA, there are no statistically significant differences in students' edTPA performance scores based on gender $F(1, 109) = 2.202, p > .141, \text{partial } \eta^2 = .020$ (see Table 21).

Table 21

Test of Between-Subject Effects Based on Gender when Controlling for GPA

Dependent Variable: edTPA Pct Score

Source	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Corrected Model	2113.502 ^a	2	1056.751	8.893	.000	.140	17.785	.969
Intercept	56.458	1	56.458	.475	.492	.004	.475	.105
gpacum	1908.559	1	1908.559	16.061	.000	.128	16.061	.978
Gender	261.674	1	261.674	2.202	.141	.020	2.202	.313
Error	12952.873	109	118.834					
Total	319329.384	112						
Corrected Total	15066.375	111						

a. *R* Squared = .140 (Adjusted *R* Squared = .125)

b. Computed using alpha = .05

A second ANCOVA was used to assess whether the influence of gender was found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for the age of the pre-service teacher.

A preliminary analysis was run to determine if the main effect (gender) and the covariate (age) interacted in order to determine if the homogeneity of the regression slopes assumption was met. The analysis revealed no interaction between the main effect (gender) and the covariate (age) so the assumption of the homogeneity of the regression slopes was met $F(1, 108) = 2.195$, $p > .141$ (see Table 22).

Table 22

*Test of Between-Subjects Effects to Test for Interaction, Gender * Age*

Dependent Variable: edTPA Pct Score

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	897.170 ^a	3	299.057	2.279	.084
Intercept	5108.180	1	5108.180	38.935	.000
Gender	222.709	1	222.709	1.698	.195
Age	664.080	1	664.080	5.062	.026
gender * age	287.923	1	287.923	2.195	.141
Error	14169.206	108	131.196		
Total	319329.384	112			
Corrected Total	15066.375	111			

a. R Squared = .060 (Adjusted R Squared = .033)

In the ANCOVA analysis (Table 23), the results indicated that after controlling for pre-service teacher age, the influence of gender on edTPA performance percentage score was not statistically significant, $F(1, 109) = .446, p > .506$, partial $\eta^2 = .004$ (see Table 23).

Table 23

Test of Between-Subject Effects Based on Gender when Controlling for Age

Dependent Variable: edTPA Pct Score

Source	Type III Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Corrected Model	609.246 ^a	2	304.623	2.297	.105	.040	4.593	.458
Intercept	8877.907	1	8877.907	66.935	.000	.380	66.935	1.000
Age	404.303	1	404.303	3.048	.084	.027	3.048	.409
Gender	59.130	1	59.130	.446	.506	.004	.446	.101
Error	14457.129	109	132.634					
Total	319329.384	112						
Corrected Total	15066.375	111						

a. *R* Squared = .040 (Adjusted *R* Squared = .023)

b. Computed using alpha = .05

Based on this analysis, the null hypothesis for this research question was retained.

The influence of gender was not found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for GPA or pre-service teacher age.

Summary

In conclusion, the null hypothesis for Research Question 1 was rejected. The results indicated that pre-service teacher cumulative GPA had a statistically significant relationship with their overall edTPA performance rating score. Furthermore, age of the pre-service teacher had a statistically significant relationship with their overall edTPA performance rating score.

The null hypothesis for Research Question 2 was retained. The results indicated that the influence of student teacher school placement free or reduced-price lunch category (STSP FRL

categories) was not found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for GPA or pre-service teacher age.

Finally, The null hypothesis for Research Question 3 was retained. The results indicated that the influence of gender was not found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for GPA or pre-service teacher age.

Chapter V provides an in-depth discussion of these results and posited conclusions to the study along with recommendations for policy and future related studies.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The reform efforts of the American educational system have been repeated over the last three decades (Hildebrandt & Swanson, 2014). The criticisms of the United States teacher education programs' ability to adequately prepare pre-service teachers for 21st century education has motivated the call for policymakers and the education community to take a collective responsibility for recruiting, preparing, and supporting new teachers (Banks et al., 2014).

Presently, education reformers are focused on making improvements in teacher practice and student achievement (Leithwood, Louis, Anderson, & Wahlstrom 2004; Okhremtchouk, Seiki, Gilliland, Ateh, Wallace, & Kato, 2009). There have been indicators of positive learning outcomes for pre-service teachers from studies specifically exploring portfolio-based teacher performance assessments (TPAs) as a measure of pre-service teachers' ability to teach (Chung, 2008). As more states are requiring TPAs for teacher licensure, it is imperative to explore the efficacy of these assessments (Okhremtchouk et al., 2009).

Purpose of the Study

The purpose of this study was to investigate the factors that may influence the outcome of pre-service teachers' performance on the edTPA, and to contribute to the overall knowledge of edTPA as a pre-service teacher performance assessment. EdTPA is a standardized pre-service performance assessment that is designed to assess whether new teachers are prepared to enter the teaching profession (Hildebrandt & Swanson, 2014). EdTPA claims it is an accurate measure of a teacher's readiness to receive teaching licensure (Stanford Center for Assessment, Learning, and Equity (SCALE), 2013). I explored the relationship between pre-service teacher

demographic and academic performance characteristics and edTPA summative performance ratings in an effort to determine if a relationship exists between these fixed factors and student performance on edTPA.

Organization of the Chapter

Chapter V begins with an in-depth discussion of the results and posits conclusions to the study. Next, this chapter provides recommendations for administrative policy and practice. Finally, Chapter V provides recommendations for future related studies.

Research Questions and Answers

Research Question 1: What is the nature of the relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score?

Null Hypothesis 1: There is no significant relationship between a pre-service teacher's demographic and academic characteristics and his or her overall edTPA performance rating score.

Answer: Based on the analysis, the null hypothesis for this research question was rejected. Pre-service teacher cumulative GPA had a statistically significant relationship with their overall edTPA performance rating score. Furthermore, age of the pre-service teacher had a statistically significant relationship with their overall edTPA performance rating score.

A simultaneous multiple regression was run to answer the first research question. The purpose was to determine the nature of the relationship between the independent variables cumulative GPA, student teacher school placement free or reduced-price lunch percentage, pre-service teacher's age, whether the pre-service teacher had a Pell Grant, pre-service teacher's gender, and whether the pre-service teacher was Caucasian, and the dependent variable, student

teachers' overall edTPA performance percentage score. It was determined that the independent variables contributed to 18.2% of the variance in student teachers' overall edTPA performance percentage score.

Two variables were found to be statistically significant predictors of the pre-service teachers' edTPA performance percentage score. The pre-service teachers' cumulative GPA contributed to 12.8% of the variance, while the age of the pre-service teacher contributed 4% of the variance to the dependent variable. Between the two statistically significant variables, cumulative GPA was the strongest predictor of student edTPA percentage scores.

The relationship between cumulative GPA and edTPA percentage score was positive; therefore, the higher the pre-service teacher's GPA, the greater the edTPA performance score they achieved. The age of the pre-service teacher was also a predictor of student edTPA percentage score. The relationship between age and edTPA percentage score was also positive. The older the candidates were, the higher the edTPA percentage score they received.

Research Question 2: What is the influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 2: There is no significant influence of student teacher placement on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

Answer: Based on the analysis, the null hypothesis for this research question was retained. The student teacher school placement free or reduced-price lunch categories (STSP FRL categories) ranged from 0%-47%, 48%-79%, and 80%-100%, which designated three distinct categories. Twenty-six candidates were assigned to schools where the percentage of

students on free or reduced-price lunch was between 0%-47%. Thirty-four of the pre-service teachers were assigned to schools where the percentage of students on free or reduced-price lunch was between 48%-79%. Finally, 52 candidates were assigned to schools where the percentage of students on free or reduced-price lunch was between 80%-100%. The influence of STSP FRL categories was not found to have a statistically significant impact on the dependent variable, edTPA percentage score after controlling for GPA or pre-service teacher age.

Two separate analyses of covariance (ANCOVA) were used to answer the second research question. The purpose of the first ANCOVA was to assess whether the influence of student teacher school placement free or reduced-price lunch category (STSP FRL categories) was found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for the GPA of the pre-service teacher.

The results of the first ANCOVA indicated that when controlling for GPA, there are no statistically significant differences in students' edTPA performance scores based on school placement in free or reduced-price lunch categories.

The purpose of the second ANCOVA was to assess whether the influence of student teacher school placement in free or reduced-price lunch categories (STSP FRL categories) was found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for the age of the pre-service teacher. The results of the second ANCOVA indicated that after controlling for pre-service teacher age, there were no statistically significant differences between a student teacher's edTPA performance scores based on the student teacher's school placement, which was delineated by the percentage of students in the placement school on free or reduced-price lunch.

Research Question 3: What is the influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables?

Null Hypothesis 3: There is no significant influence of gender on student authentic assessment performance as measured by edTPA when controlling for student academic performance and demographic variables.

Answer: Based on the analysis, the null hypothesis for this research question was retained. The influence of gender was not found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for the GPA or the age of the pre-service teacher.

Two separate analyses of covariance (ANCOVA) were used to answer the third research question. The purpose of the first ANCOVA was to assess whether when controlling for GPA of the pre-service teacher, statistically significant differences existed in student edTPA performance scores based on gender. The mean edTPA percentage score for the 26 male pre-service teachers was 54.58, with a standard deviation of 12.63. The mean edTPA percentage score for the 86 female pre-service teachers was 51.37, with a standard deviation of 11.30. Finally, the mean edTPA percent score for the entire sample population was 52.12, with a standard deviation of 11.65.

The results of the first ANCOVA indicated that when controlling for GPA, there are no statistically significant differences in students' edTPA performance scores based on gender.

The purpose of the second ANCOVA was to assess whether when controlling for age of the pre-service teacher, statistically significant differences existed in student edTPA performance scores based on gender. The results of the second ANCOVA indicated that after controlling for

pre-service teacher age, there were no statistically significant differences in students' edTPA performance scores based on gender.

Conclusions and Discussion

EdTPA is a newly developed national teacher assessment. This study investigated the potential impact of pre-service teachers' demographic and academic characteristics on the candidates' performance on edTPA. The results from this study indicated that pre-service teacher cumulative GPA had a statistically significant relationship with their overall edTPA performance rating score. Pre-service teachers with higher cumulative GPAs performed better on edTPA. The unstandardized beta is how much Y (the outcome variable) will increase for every unit increase in X (the predictor variable); for every one-point increase in pre-service teacher GPA, their edTPA score will increase by 12.654.

Furthermore, age of the pre-service teacher had a statistically significant relationship with the pre-service teacher's overall edTPA performance rating score. This study found that the older the pre-service teacher, the better they performed on edTPA. For every one-year increase in pre-service teacher age, the edTPA score will increase by .346 points.

The results further found that when controlling for GPA, there were no statistically significant differences in student edTPA performance scores based on student teacher school placement when the category school was identified by the percentage of students on free or reduced-price lunch. The results also found that when controlling for pre-service teacher age, there were no statistically significant differences in student edTPA performance scores based on student teacher school placement free or reduced-price lunch percentage.

The findings to Research Question 2 are not without their limitations. The program did not break down the placements of the student teachers by rural, suburban, or urban, as most of

the student teachers were assigned to schools in the city or in the immediate surrounding area. Using the demographic data from what could be considered a complex metropolitan area, I took the free or reduced-price lunch category and broke it down into ranges. There was little variability in the sample population, who were largely assigned to lower socioeconomic schools with 76.8% of the pre-service teachers placed in schools with more than 50% free or reduced-price lunch. Although my findings could not provide a definitive answer to this question, it is important that this variable be included with larger, more robust, samples.

Finally, the results of the study indicated that the influence of gender was not found to have a statistically significant impact on the dependent variable edTPA percentage score when controlling for GPA. The study indicated that the influence of gender was not found to have a statistically significant impact on the dependent variable edTPA percentage score after controlling for age.

Teacher quality has been a key point of focus over the past decade, addressing the increasing achievement gap while maintaining the United States' competitive positioning during an era of globalization (Allen, 2013). Across the country, nearly all states have put reforms in place with the aim of defining what teachers are expected to know and what they should be able to do as a result of their teacher preparation experience (Pecheone, Pigg, Chung, & Souviney, 2005). A large number of states have adopted standards-based performance assessment as a means of assessing prospective teachers' readiness for licensure (Pecheone et al., 2005). The current study examining edTPA, the first national performance assessment, gives us insight into this high-stakes assessment that is being used to address concerns of teacher quality throughout the country.

Liston, Borko, and Whitcomb (2008) refocus the problems of teacher quality to three larger perspectives: supply/demand, preparation, and retention. Supply/demand is the inability to attract teachers with academic ability/intelligence and content knowledge. Concerns about preparation are rooted in the idea that pre-service teachers do not achieve the knowledge and practice necessary to be effective. The matter of retention is the field's failure to identify and/or keep quality teachers in the profession. The ability to recruit top talent, quality preparation, and the ability to retain top talent are considered by Allen (2013) to be essential characteristics in high-performing schools. These broad positions are germane to the discussion of edTPA and this current research.

Some attribute the problem of teacher quality to the inability to attract teachers to the field who have the overall academic ability, high level of preparation or content knowledge, racial or linguistic diversity, or a commitment to teach in low socioeconomic or rural schools (Liston et al., 2008). This study suggests that student success on the edTPA can be predicted through GPA before the pre-service teachers start their student teaching assignment. This has implications for teacher education programs in states where edTPA is required for licensure. Teacher education programs are best served to recruit high achieving students into the teacher education programs in order to ensure success on edTPA (Miller et al, 2015) and a more consistent and robust passing rate. The problem that schools may face with recruitment as schools begin to adopt edTPA is that the assessment has already placed a significant burden on candidates, professors, and teacher education programs. These parties are attempting to combine their goals and beliefs about teaching practice and the challenges that come with that (Lachuk & Koellner, 2015), along with the expectations of edTPA. This problem is exacerbated as a result of the limited understanding of edTPA, and there is widespread consensus that teacher quality is

in need of repair, as the field has been under tremendous scrutiny (Pecheone et al., 2005; Allen, 2013; Miller, 2015). It is in the best interest of the field that the implementation of edTPA in teacher education programs is done with an awareness of the current climate and based on a sound understanding of edTPA and the research on the assessment so as not to discourage an already decreasing pool of candidates.

EdTPA is intended to demonstrate teachers' preparedness to teach their area of content (Miller, 2015). Performance assessments are considered not only an innovative approach to assessing teacher knowledge and skill but are primarily an instrument that will enhance teacher learning and reflective teaching (Chung, 2008). The candidates sampled in this study piloted the edTPA. The pre-service teachers submitted a digital portfolio that included student work samples, extensive written commentaries addressing each section, lesson plans, samples of instructional and assessment material, and video recordings of segments of the candidate carrying out instruction and interacting with the students to address the lessons' objectives. Chung (2008) found that performance assessments like the Teaching Event used in the PACT, when thoughtfully implemented, can be an impactful tool to improve professional preparation of pre-service teachers in ways that will establish more student-centered, assessment-driven instruction. Chung (2008) found that through the Teaching Event, candidates were able to learn about addressing specific student needs, continuity in planning, assessing students, and differentiating based on the results of assessments. As this current study attempted to initiate, it is important to investigate factors that may mediate results on the edTPA. This will help to better determine the assessments' ability to measure teacher preparedness along with to what degree the assessment promotes teacher learning and reflective teaching.

Taking into consideration the findings of this study that the older the candidate the better he or she performed on the edTPA, it may prove beneficial to extend the programs for future educators an additional year. The possibility that teacher education programs may graduate prospective teachers too soon, coupled with programs that do not do enough in that time to prepare new teachers through authentic experiences, will negatively affect teacher retention (Allen, 2013). There has been a substantial increase in new teacher attrition over the years, and there is consensus between researchers that between 40% and 50% of teachers will leave the profession within their first five years (Mee & Haverback, 2014; NCTAF, 2010). How a teacher feels about his or her ability to teach may have a significant influence on their classroom experience, therefore impacting their willingness to continue in the profession (Sass, Seal, & Martin, 2011). Mee and Haverback's (2014) study of middle school teachers in their first year found that teachers attribute their belief that they would continue to teach based on the preparation that they received in their teacher education program.

With the imminent shift to edTPA and like assessments as the high-stakes assessment used for teacher licensure, it is imperative that the states adopting the assessment get it right. It is critical that the decisions of policymakers regarding the assessment are steered by evidence derived through studies, such as the current research, that attempt to probe into edTPA. Research must examine ways to ensure that the assessment provides pre-service teachers with authentic experiences that will reverse the trends of teacher attrition (Allen, 2013).

Recommendations for Policy and Practice

This is the time for policymakers and the education community to develop a more in-depth understanding of edTPA, which is already at different stages of implementation in at least 34 states and is being used to inform decisions on teacher licensure (Hildebrandt & Swanson,

2014). While prior research at the time of this current research was limited, we learned from this study that GPA and age of the pre-service teacher are statistically significant predictors of edTPA performance percentage score. We further learned that other important demographic characteristics such as student-teacher school placement, the gender of the student-teacher, whether or not the pre-service teacher received a Pell Grant, and whether or not the pre-service teacher was Caucasian did not have a statistically significant relationship with the overall edTPA performance rating score. However, this study was limited and based on pilot data so the results reported here are somewhat restricted.

Policymakers and education practitioners must investigate research on the topic of teacher licensure in order to better understand the various approaches and constructs of teacher licensure that are currently being used (Darling-Hammond, Berry, & Thoreson (2001). There is widespread consensus that characterizes standards and traditional measures used to assess teacher preparedness as failing (Wise & Leibbrand, 2001; Raths & Lyman, 2003). As education programs across the country continue to adopt edTPA, the findings of this study, along with subsequent studies, may contribute to informing what should be data-driven decision making of those policymakers and practitioners involved in implementing edTPA. It is recommended that a concerted effort be made by state, local and university authorities to collaborate and coordinate the implementation of edTPA in order to ensure its success and do no harm to potential teacher candidates. Furthermore, it is recommended that an additional revision be added to AchieveNJ policy that includes a component for state-funded professional development in the area of teacher candidate performance assessment and more specifically, edTPA.

The results of this study have shed light on factors that impact pre-service teacher performance on edTPA. The findings that there was no statistically significant impact on student-

teacher performance on edTPA regardless of a pre-service teachers' gender, whether they were rich or poor, whether they were teaching in a school placement with higher or lower socioeconomic students, or whether the pre-service teacher was Caucasian or non-Caucasian is an outcome that may be used to encourage enthusiasm for further examination of the assessment by all stakeholders. The idea that edTPA potentially allows for assessing teaching in varied settings and contexts, and by teachers who bring varied personal characteristics, would be appealing to reformers looking to move away from traditional forms of assessment to more authentic assessments such as edTPA (Darling-Hammond & Snyder, 2000).

The implications of edTPA for teachers and principals in the schools where the student teachers are placed are an important area of focus for future policy and practice. There are concerns surrounding local control or lack thereof as a result of the adoption of edTPA (Reagan, Schram, McCurdy, & Evans, 2016). There has been controversy surrounding the edTPA, which is seen by the states adopting the assessment as a solution to the problem of assessing pre-service teacher quality (Reagan, Schram, McCurdy, & Evans, 2016). However, the degree to which the local practitioners have input in constructing the expectations of the mastery of skills of new teachers may be diminished through the national assessment (Reagan, Schram, McCurdy, & Evans, 2016). Will the voices of these local stakeholders continue to be valued after the adoption of edTPA (Reagan, Schram, McCurdy, & Evans, 2016)? The edTPA marks a shift to a national criteria of what is readiness to teach (Reagan, Schram, McCurdy, & Evans, 2016) and indirectly what current teachers and principals should know about what quality teaching looks like. Teachers and principals will need to become involved in the larger discussion of edTPA so that they are not marginalized in the process of implementation.

Recommendations for Future Research

There is a limited number of existing empirical studies specifically addressing edTPA and its overall validity or whether or not it can be assumed to be an accurate measure of a teacher candidate's ability to teach effectively. Among the few studies that do exist, only a small number have focused their research on factors that may influence pre-service teacher performance on the assessment (Denton, 2013). Since it appears that it is becoming a more widespread national assessment leading to teacher licensure (Hildebrandt & Swanson, 2014; Denton, 2013), it is imperative that robust unbiased ongoing research analysis on large-scale assessments such as the PACT and edTPA take place (Duckor et al., 2014). It is recommended that policymakers and the education community invest resources into more extensive research on edTPA. Research on the topic of edTPA is necessary to provide stakeholders with a greater overall knowledge of the assessment and of the factors that influence teacher preparation and quality of the teaching profession (Duckor et al., 2014). Future studies of edTPA should consider the following recommendations:

1. More robust samples using unbiased populations need to be done in order to ensure more validity in the findings and reduce the influence of selection bias, which is inherent to a pilot study design. Over the next several years, data on the topic of edTPA will become far more readily available.
2. Use data from high-stakes edTPA assessments that have been administered.
3. Collect data that includes greater variability in the candidates' placements in order to strengthen the findings of the influence of student teacher placement on edTPA.
4. Use a control variable from a standardized assessment that was required of the entire sample, such as SAT/ACT scores in order to strengthen the findings of academic

- characteristics' influence on pre-service teacher performance on edTPA. A baseline scale score that would be comparable across the sample to control for academic potential before the pre-service teacher entered the program would allow for a common measure of academic performance along with GPA.
5. Investigate university supervisors' and cooperating teachers' impact on student teacher candidates' edTPA scores (Miller et al., 2015). This will provide insight into the relationship of these partnerships and what influence, if any, the relationships have on pre-service teacher performance on edTPA.
 6. Include a larger number of predictor variables with the goal of investigating the validity of the edTPA.
 7. Include student teachers' praxis scores, major, grade level placement, and pre-service teacher personal characteristics.
 8. After edTPA has been implemented over the course of a number of years, it is recommended that researchers investigate the relationship between a pre-service teacher's edTPA score and his or her teacher evaluation scores. At this point, most states have instituted some form of teacher summative evaluation scores; therefore, examining the relationship between edTPA performance and teacher performance will provide insight into how accurate edTPA can predict successful performance in the field.
 9. Investigate student teacher candidates' experiences, along with teacher educator experiences with edTPA, and the entire edTPA process.
 10. Investigate the use of and limitations of video recording for obtaining the edTPA performance sample.

Conclusion

The results from this quantitative, analytical, non-experimental, explanatory study suggest that the GPA and age of the pre-service teachers in this study can predict their edTPA performance score and that the better their academic performance and the older they are, the better their performance will be on edTPA. The results further suggest that the socioeconomic makeup for the student teacher school placement may not impact the results of different groups of participants who were placed in schools with poorer students or schools that had more wealth, although these findings need to be considered questionable based on the limited variability in school placement for these pilot students. Last, the findings suggest that the pre-service teachers' edTPA scores did not indicate differences based on gender when controlling for academic performance or demographics.

Despite the limitation of the sample size, which limits the generalizability of the study along with the limited variability in the sample, as far as some of the demographic aspects are concerned, this study has relevant implications for stakeholders seeking to better understand edTPA, as pre-service teacher preparation is now at the forefront of education reform efforts. The finding that the student teachers' edTPA scores were not influenced by the personal wealth of the student teacher (Pell Grant recipient), gender, ethnicity, or the affluence or lack thereof of their school placement, along with the finding that GPA and age did influence the edTPA score, is the beginning of disentangling what factors will or will not contribute to the results of the assessment.

The edTPA is new to education programs across the country. Stakeholders are met with challenges implementing edTPA (Lachuk & Koellner, 2015; Miller et al., 2015). As the groups affected by edTPA reflect and plan in order to make adjustments in their approach to the

assessment (Lachuk & Koellner, 2015), they will gain greater clarity as they sort through the multiple factors studied in this research and future research that have the potential to enhance the overall understanding of what contributes to candidates' performance on the assessment.

EdTPA claims to authentically assess teacher performance (SCALE, 2013). The assessment has expanded across the country with great momentum and carries significant consequence for pre-service teachers seeking licensure. This study created an opportunity to contribute to the early vetting process of edTPA through research analysis on potential factors that may influence the outcome of pre-service teacher performance on the assessment. This study suggests that the edTPA pilot administered at the participating university was able to withstand the scrutiny of the specific influential factors investigated in this study that would have raised concerns if they were found to be impactful to the candidates' performance scores on the assessment.

The edTPA supports the decisions of whether a prospective teacher should be licensed or not. The assessment is also a significant driver of how teacher education programs go about preparing pre-service teachers (Lachuk & Koellner, 2015). It is imperative that there is continued research on edTPA that builds upon this current study as the assessment continues to grow as an integral piece of how teachers are prepared by teacher education programs and as it is more widely used as an instrument for credentialing decisions.

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Appendices

Appendix A: IRB Approval Letter



OFFICE OF INSTITUTIONAL
REVIEW BOARD

SETON HALL UNIVERSITY

May 2, 2016

Timothy Gouraige



Dear Mr. Gouraige,

The Seton Hall University Institutional Review Board has reviewed the information you have submitted addressing the concerns for your proposal entitled "An Exploratory Study into the Nature of the Relationship between Pre-Service Teacher Fixed Factor Characteristics and edTPA Performance Ratings." Your research protocol is hereby accepted as revised and is categorized as exempt.

Please note that, where applicable, subjects must sign and must be given a copy of the Seton Hall University current stamped Letter of Solicitation or Consent Form before the subjects' participation. All data, as well as the investigator's copies of the signed Consent Forms, must be retained by the principal investigator for a period of at least three years following the termination of the project.

Should you wish to make changes to the IRB approved procedures, the following materials must be submitted for IRB review and be approved by the IRB prior to being instituted:

- Description of proposed revisions;
- *If applicable*, any new or revised materials, such as recruitment fliers, letters to subjects, or consent documents; and
- *If applicable*, updated letters of approval from cooperating institutions and IRBs.

At the present time, there is no need for further action on your part with the IRB.

In harmony with federal regulations, none of the investigators or research staff involved in the study took part in the final decision.

Sincerely,

A handwritten signature in cursive script that reads "Mary F. Ruzicka, Ph.D."

Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

cc: Dr. Gerard Babo

Please review Seton Hall University IRB's Policies and Procedures on website (<http://www.provost.shu.edu/IRB>) for more information. Please note the following requirements:

Adverse Reactions: If any untoward incidents or adverse reactions should develop as a result of this study, you are required to immediately notify in writing the Seton Hall University IRB Director, your sponsor and any federal regulatory institutions which may oversee this research, such as the OHRP or the FDA. If the problem is serious, approval may be withdrawn pending further review by the IRB.

Amendments: If you wish to change any aspect of this study, please communicate your request in writing (with revised copies of the protocol and/or informed consent where applicable and the Amendment Form) to the IRB Director. The new procedures cannot be initiated until you receive IRB approval.

Completion of Study: Please notify Seton Hall University's IRB Director in writing as soon as the research has been completed, along with any results obtained.

Non-Compliance: Any issue of non-compliance to regulations will be reported to Seton Hall University's IRB Director, your sponsor and any federal regulatory institutions which may oversee this research, such as the OHRP or the FDA. If the problem is serious, approval may be withdrawn pending further review by the IRB.

Renewal: It is the principal investigator's responsibility to maintain IRB approval. A Continuing Review Form will be mailed to you prior to your initial approval anniversary date. **Note:** No research may be conducted (except to prevent immediate hazards to subjects), no data collected, nor any subjects enrolled after the expiration date.

Appendix B: IRB Approval Certification

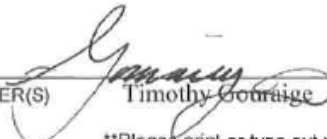
**REQUEST FOR APPROVAL OF RESEARCH, DEMONSTRATION OR
RELATED ACTIVITIES INVOLVING HUMAN SUBJECTS**

All material must be typed.

PROJECT TITLE: *An Exploratory Study into the Nature of the Relationship between Pre-Service Teacher Fixed Factor Characteristics and edTPA Performance Ratings*

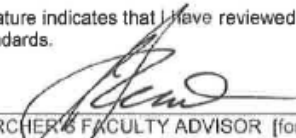
CERTIFICATION STATEMENT:

In making this application, I (we) certify that I (we) have read and understand the University's policies and procedures governing research, development, and related activities involving human subjects. I (we) shall comply with the letter and spirit of those policies. I (we) further acknowledge my (our) obligation to (1) obtain written approval of significant deviations from the originally-approved protocol BEFORE making those deviations, and (2) report immediately all adverse effects of the study on the subjects to the Director of the Institutional Review Board, Seton Hall University, South Orange, NJ 07079.


RESEARCHER(S) Timothy Gougeon 4/28/16
DATE

****Please print or type out names of all researchers below signature.
Use separate sheet of paper, if necessary.****

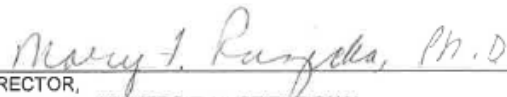
My signature indicates that I have reviewed the attached materials of my student advisee and consider them to meet IRB standards.


RESEARCHER'S FACULTY ADVISOR (for student researchers only) 4/28/16
DATE
Dr. Gerard Babo

****Please print or type out name below signature****

The request for approval submitted by the above researcher(s) was considered by the IRB for Research Involving Human Subjects Research at the April 2016 meeting.

The application was approved not approved by the Committee. Special conditions were were not set by the IRB. (Any special conditions are described on the reverse side.)


DIRECTOR, 5/2/16
DATE
SETON HALL UNIVERSITY INSTITUTIONAL
REVIEW BOARD FOR HUMAN SUBJECTS RESEARCH

Seton Hall University
3/2006

Appendix C: Permission Letter from Participating University

[REDACTED]

April 7, 2016

Dear Seton Hall Institutional Review Board,

The purpose of this letter is to document that I am the sponsor for *Timothy Gouraige's* doctoral research. I have given him permission to conduct the research in the [REDACTED] [REDACTED] College of Education at [REDACTED]. Additionally, he has consulted with the IRB at [REDACTED]. Mr. Gouraige will be working with a set of edTPA data that I will provide. We have arranged to have a graduate student (under my supervision) de-identify and code the data to ensure anonymity.

Please feel free to contact me if you have questions or concerns.

Sincerely,

[REDACTED]
[REDACTED] Ph.D.
Dean, [REDACTED]
[REDACTED]

Appendix D: Letter from Participating University IRB



Institutional Review Board

TO: Timothy Gouraige, MA
Seton Hall University

FROM: [REDACTED] PhD
IRB Chair

DATE: April 1, 2016

SUBJECT: Research protocol submitted by non-[REDACTED]

Dear Mr. Gouraige,

Your research protocol titled "*An Exploratory Study into the Nature of the Relationship between the Pre-Service Teacher Fixed Factor Characteristics and edTPA Performance Ratings*" cannot be accepted for review by the [REDACTED] IRB as you are not affiliated with [REDACTED]. The [REDACTED] IRB has jurisdiction over and covers research of [REDACTED] investigators (students, faculty, and staff members).

All non-[REDACTED] investigators should be covered by IRBs of their home institutions or, if their home institutions do not have their own IRBs, via Individual Investigator Agreements submitted to the [REDACTED] IRB.

If you have questions or need further assistance, please email [REDACTED] or call [REDACTED].