PHYSICAL EDUCATION AND THE edTPA: EXAMINING ACT, GPA, PRAXIS EXAMS, AND COURSE GRADES AS PREDICTORS OF SUCCESS

by

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ABSTRACT

Empirical research on the predictors of the edTPA scores is growing in education literature. However, to date minimal empirical literature exists on edTPA and physical education as a specific program area. State policymakers, educator preparation program administration, and physical education teacher education faculty may benefit from understanding factors that predict candidates' success on the edTPA. Therefore, the purpose of this study was to determine whether success on the edTPA can be correlated with GPA, standardized test scores for entry into teacher education, course work grades, and/or standardized test scores for licensure. Academic and edTPA scores of 39 physical education teacher-candidates for the 2015-2021 academic years were utilized. Academic factors at program admission and senior level were analyzed to produce descriptive statistics. A binary regression analysis determined a statistically significant relationship between Praxis Core exam scores, specifically Praxis Core writing exam scores, and a successful edTPA score based on university and state cutoff scores ($p < .01$, Nagelkerke $R^2 = .45$; $p = .03$, Nagelkerke $R^2 = .30$). No significance was revealed for ACT score, GPA, Praxis Core reading, or Praxis Core math scores. A chi square test of independence determined a statistically significant relationship between a secondary methods course and the edTPA Task 3 score ($\chi^2 = 6.50$, $df = 2$, N = 39, $p = .01$. No significance was found for elementary methods course, elementary or secondary practicum, or Praxis II/content knowledge scores in relation to the total edTPA score or individual task scores. These findings suggest state policymakers and educator preparation programs should reconsider benchmarks in alignment with licensure requirements. To be successful with the edTPA, candidates have to be able to clearly write about the results and decision-making process

of effective teaching. Therefore, writing skills and developing these skills are critical. Furthermore, physical education teacher education programs can use the data to consider how methods and practicum courses support teacher candidates for submitting a successful edTPA portfolio.

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CHAPTER I: INTRODUCTION

Proponents of the Educative Teacher Performance Assessment, commonly referred to as the edTPA, argue that the American education system and its educators need a public facelift. Requiring candidates to pass a national exam gives a sense of high standards and expertise that is not obtainable by all. Consistent with other professions, like practicing law, nursing, or medicine, or receiving board-level certification demonstrates a defined level of competency and is required to enter the profession, and educators needs a standard as well. According to one author, other professions have been able to agree on accountability standards and requirements without minimizing professional autonomy or academic freedom in preparation programs (Crowe, 2010). Advocates claim the edTPA is the needed "gatekeeper" to the education system, only allowing in those who demonstrate competency (Ledwell & Oyler, 2016; Paugh, Wednell, Power, & Gilbert, 2017). Following other professions' consensus model of preparation and practice provides higher levels of respect that education continues to fight for in the public court of opinion (Crowe, 2010).

History of the edTPA in America

The edTPA became operational and official in 2013 after a three-year pilot study. Individual teacher education programs and states began to adopt the new process of evaluating candidates, originating in a nation-wide accountability movement embracing standardized tests for pre-service teachers with shared expectations for teacher candidates across programs, states, and the nation (Crowe, 2010; Sato, 2014). In 1998 California legislation (CA Senate Bill 2042) led the way with a requirement of a summative assessment of teaching performance of candidates and produced both the Performance

Assessment of California Teachers (PACT) and, California Teacher Performance Assessment (CalTPA). The PACT is required at the end of preparation while CalTPA is completed across the program in four steps. The summative performance assessment shift was supported by the America Association of Colleges of Teacher Education (AACTE), which spurred the development of the edTPA in 27 content areas by Stanford University and the Stanford Center for Assessment, Learning, and Equity (SCALE) (http://edtpa.aacte.org/about-edtpa; Sato, 2014). By November 2020, approximately 937 educator preparation programs in 41 states plus the District of Columbia were using the edTPA. Of those 41 states, 19 had specific policies in place for its use while three more were in the process of defining one. Each state is allowed to choose their own cutoff score for passing and whether those scores have consequences for licensure. The current nationwide average range for passing is 37-43 out of a possible 75 points for the programs using the 15-rubric assessment (http://edtpa.aacte.org/state-policy).

Advocates and Adversaries on edTPA

Advocates of the edTPA believe teacher performance assessments reveal current teacher candidate effectiveness as well as predict future teacher effectiveness (Darling-Hammond & Hyler, 2013). They further propose that effectiveness is greatest when assessment supports the candidate's growth and improves the preparation program's effectiveness. Student-teaching is frequently cited as the most influential learning experience for the teacher candidate; therefore, a performance assessment during this experience provides real-time evidence of the candidate's abilities and practices (Darling-Hammond & Hyler, 2013). Some advocates liken the edTPA to National Board Certification for in-service teachers (Clayton, 2018). The process of achieving national

certification does not increase teacher effectiveness. National Board Certification candidates are rated more effective prior to certification than their non-applying peers, meaning the certification process reveals the practices and performance they were doing before receiving the national certification (Goldhaber, 2006). This evidence supports the edTPA as the "gatekeeper" because only the candidates who are demonstrating effective teaching are the ones expected to pass.

Additional arguments state the previous standard of certification for teacher candidates, the Praxis series by ETS, is not indicative of quality teaching because of the multiple-choice format. The majority of candidates complete the tests before their final residency/student-teaching, which does not represent a final product of the candidate. The argument is for candidates to demonstrate their learning in practice rather than complete a multiple-choice test (Selke, Mehigan, Frience, & Victor, 2004). Policymakers assume high scores on a paper-pencil test of content and/or pedagogical knowledge equals the ability to apply that knowledge in a classroom. Performance assessments like the edTPA require demonstrating competency while Praxis is designed to measure theoretical knowledge content. The use of Praxis scores as predictors to apply knowledge has been deemed as a misuse of the assessment by Selke, et al, (2004).

In 2010, Crowe wrote for the Center for American Progress, arguing teacher licensure tests are not constructed to predict teaching success because they do not directly measure what teachers do in the classroom. He continues the argument questioning whether each state having a unique set of teacher education accountability standards is sensible when they could unite with common standards, policies, practices, and licensure tests to potentially improve the rate of effective teachers in schools. Crowe further states

the current (2010) system of state autonomy for licensure consists of more than 1,100 different tests with the entrance exams measuring eighth grade levels of knowledge. He presented his case three years before the edTPA began its route to being a common teacher candidate assessment across the United States.

Historically, mentor teachers and university supervisors have been the judges of candidates' teaching performances. The edTPA portfolio can be assessed anonymously through Pearson Education, Inc. by trained scorers or in-house by trained faculty. The subjectivity of mentors' and supervisors' scores is highly debated. A qualitative study of nine faculty members was conducted in New York to determine the level and type of support given to candidates in respect to the edTPA guidance document (Ratner & Kolman, 2016). The results confirmed a variation in the support candidates received based on their respective faculty member's choice to be a "breaker, bender, or obeyer" of the guidelines. Each side agrees the personal relationship or history between the candidate and mentor and/or supervisor affects the scores (Bhatnagar, Kim, & Many, 2017). Those in favor of performance assessment say the candidate is given too much credit from the mentor and/or supervisor because of the existing relationship or is penalized for past behaviors. Those in favor of local control argue that this relationship is necessary to fairly judge the candidate because he/she understands the context and content of learning that has occurred in the program in addition to the context of teaching the candidate is delivering in during residency (Russell & Devall, 2016). Evans, Kelly, Baldwin, and Arnold (2016) analyzed the strength of the relationship between student-teaching evaluation scores (university-designed tool using state and national standards) and edTPA scores of 43 graduates. No correlation (*Spearman's Rho* = .406, p=.007) was

present between the two assessment results, further distinguishing the practice of teaching in practicum versus the planning and reflecting of teaching in the edTPA.

On the opposing side of the edTPA implementation is the nature of teaching being subjected to a standardized test (Heil & Berg, 2017). Learning opportunities are based on the context and personal characteristics of the teacher and learner, which applies to the teacher education program as well as the student-teaching experience. The edTPA is claimed to be an authentic assessment because the evidence is garnered from actual teaching experiences, yet it is a standardized process that does not account for contextual factors of the educator preparation program, teacher candidate, residency placement school, or K-12 student participants (Parkes & Powell, 2015). Furthermore, the implementation and practices of the edTPA are dependent on both the program and the faculty. Educational philosophies create a multitude of opinions and stances on performance assessment, teaching strategies, and content of courses which all effect the buy-in of the edTPA (Olson & Rao, 2017). The states typically decide whether universities will utilize the edTPA. This decision affects many departments that likely have different approaches and foci to their areas and programs that the edTPA can disrupt or delete.

Research on the Results, Validity, Effects, and Experiences of the edTPA

As the edTPA becomes more common practice and linked to higher stakes, more research is being conducted on its results, validity, effects, and experiences. Much of the research has been conducted in Wisconsin, New York, Illinois, and Georgia which limits the experiences to those contextual settings. The current literature reflects the use of qualitative approaches to better understand what the personnel of educator programs and

teacher candidates are experiencing before and during the edTPA process as well as how those experiences affect the performance results and overall programs (Chiu, 2014; Edmundson, 2017; Hildebrandt & Swanson, 2019; Ressler, King, & Nelson, 2017).

Hildebrandt and Swanson (2019) surveyed 88 world language faculty members across 19 states who use the edTPA; the average number of years' experience with the assessment was 3.65 years. Results indicated participants did not unanimously endorse the edTPA for world languages. Additionally, they had the highest level of agreements on negative factors such as the amount of time the assessment consumes for both teacher candidates and faculty, the difficulty of completing the portfolio while student-teaching, participants' lack of understanding of the edTPA, the fairness of the cost, and the inclusion of a corporation (Pearson Education, Inc.) in education.

Chiu (2014), representing students in a New York university, summarized the candidate's perspective. She identified positive results of the edTPA and experience such as using backwards design to plan, deep reflection on instruction, and improving assessment to identify and address class and student needs. However, she continues to state, "the negatives of the edTPA outweigh the positives for one main reason: all of these positives can be taught and practiced outside of the context of edTPA and in traditional teacher education classes." She further explains that teacher candidates often "backtrack" and "make up" or "misrepresent" details of their instruction to create a narrative that would be scored well according to the edTPA rubrics. While faculty are changing coursework to better prepare teacher candidates for successful completion of the edTPA, the teacher candidates are later changing their commentaries to create an artificial representation of their teaching. Chiu (2014) adds that cooperating teachers,

field supervisors, and professors should judge teacher candidates' performances and growth rather than a scorer hired by Pearson Education, Inc. to evaluate a portfolio of three to five lessons. Her argument is supported by the faculty knowing the candidate, understanding the teaching context, and having observed multiple, complete lessons taught by the candidate.

Edmundson (2017) shared conversations with Washington and Oregon education faculty to gain teacher educator perspectives on program changes. The most repeated comments involved changing courses to fit the edTPA model and expectations, disruptions to degree programming and clinical experience schedules, sacrificing culturally relevant pedagogy, and reorganizing or hiring faculty to specifically coordinate the edTPA experience. Similarly, Ressler, King, and Nelson (2017) provided perspectives of change within Illinois programs. The most common changes identified by the authors were to lesson plan formats, adding an embedded practice of the portfolio tasks, and curricular shifts in coursework and time allocations to accommodate the edTPA preparation.

The following studies represent research specific to physical education, both being qualitative and reflecting experiences rather than performance results. One focused on a clinically rich model implementation at a New York university, used as an adapted clinical residency model to better prepare PETE majors for and align with the edTPA experience (Seymour, Donnelly, & Lindauer, 2018). The researchers examined teacher candidates' and mentor teachers' perceptions of the clinically rich model leading to success with the edTPA. The overall mean score was 3.79 on a scale of 1-5, indicating

both groups (n = 57) were undecided about whether the CRM helped with the completion of the edTPA.

Another study (Holden, Parkes, & O'Leary, 2020) utilized a survey to understand PETE teacher candidate perceptions of the edTPA preparation and process as well. The number of participants was limited (n = 6), but results were similar to surveys done in other content areas. Teacher candidates wanted more support from cooperating teachers, felt their content faculty were the most helpful, and valued experiences in methods courses that were similar to the edTPA tasks.

As for quantitative data, results have shown that GPA, ethnicity, Praxis scores, and practice tasks are reflective of the edTPA performance; however, this data is narrow in scope and does not include all content areas. For example, a study (Evans, Kelly, Baldwin, & Arnold, 2016) of 43 early childhood education graduates from a Midwest university found a moderate, positive relationship between overall GPA and overall edTPA score and scores of each edTPA task (planning, instruction, assessment). The scores of planning and instruction tasks had a moderate, statistically significant relationship with major GPA, but a statistically significant relationship of major GPA was discovered for the assessment task. The authors concluded that teacher candidates who are "good students" as labeled by their higher GPA generally do well on all tasks of the edTPA. Another student trait, ethnicity, is revealed as a negative relationship with edTPA scores. Goldhaber, Cowan, and Theobald (2017) discovered that Hispanic students in Washington State were more than three times as likely to fail the edTPA compared to their non-Hispanic White peers. Furthermore, Greenblatt and O'Hara (2015) shared results from New York state's implementation of the edTPA, confirming teacher

candidates of specific linguistic, culture, and financial status maintain privilege in this process as well.

Extending beyond candidate characteristics, Okraski and Kissau (2018) researched the impact of content-specific seminars on edTPA preparation and performance, as seminars are a commonly added program component to guide teacher candidates through the process. The variation within seminars across universities includes who facilitates it, whether the facilitator has edTPA scorer training, content-specific or general seminars, technology support, and the number of meetings. The study did not identify which components of seminars were most beneficial, but scores (n=496) were consistently higher with moderate to large effect sizes (0.40-0.87) for the content-specific seminar group.

Cash, Putman, Polly, and Byker (2019) analyzed data of 507 elementary education graduates across a three-year span. Results indicated positive, significant associations between a faculty-scored practice task and the respective final edTPA score for all three tasks (planning, instruction, and assessment). No other factors, like background characteristics or program features, were statistically significant for Task 1 (planning) or 2 (instruction), indicating an influence of course work preparation and faculty feedback on success. The authors recommended future research to examine course work more closely for edTPA influence.

Another study specific to physical education examined coursework and the edTPA scores of 34 graduates across a four-year period (Davis & Walsh, 2019). The evidence reflected changes that were made to course assignments in hopes of better preparing for the assessment. The data did not provide a correlation between coursework and the

overall edTPA or task rubric scores; however, the edTPA-specific assignments did "help PETE candidates develop the skills necessary to prepare for the edTPA Tasks 1 and 2" (p. 44). Assignments were helpful for two of the five rubrics in Task 3, but the authors determined additional assignments were needed to specifically address the other rubrics in that task (Appendix B). Holden, Parkes, and O'Leary (2020) found similar results in their qualitative study of six health and physical education graduates. Assignments in the methods course that mirrored the edTPA tasks including planning, recording instruction, and assessing were found to be specific contributors to successful completion of the edTPA. Furthermore, the graduates identified Task 3 (assessment) along with the Understanding Rubric Level Progressions document provided by SCALE as areas that needed to be more fully taught. Finally, and relevant to this research, the authors note that the lack of empirical research within physical and health education is a concern.

Purpose of the Study

With an emphasis on national accountability, the adoption of the edTPA by states and educator preparation programs can be predicted to continue to increase in number. Considering the significance that the edTPA currently has in educator preparation programs and the limited research specific to physical education teacher education and the edTPA, state policymakers, educator preparation program administration, and physical education teacher education faculty may benefit from understanding factors that predict candidates' success on the edTPA. Therefore, the purpose of this research was to determine whether success on the edTPA can be correlated with GPA, standardized test scores for entry into teacher education, course work grades, and/or standardized test scores for licensure. The questions investigated were:

1. Which academic factors at program admission are predictors of a successful edTPA score for PETE candidates?

   Null hypothesis: Academic factors at program admission do not predict successful edTPA scores for PETE candidates.

   Alternative hypothesis: Academic factors at program admission predict successful edTPA scores for PETE candidates.

   a. Does GPA at admittance to an educator preparation program predict a successful edTPA score?

   b. Does the ACT score predict a successful edTPA score?

   c. Do Praxis Core scores (reading, writing, math) predict a successful edTPA score?

2. Which senior-level academic factors are associated with a successful edTPA score for PETE candidates?

   Null hypothesis: Senior-level academic factors are not associated with a successful edTPA score for PETE teacher candidates.

   Alterative hypothesis: Senior-level academic factors are associated with a successful edTPA score for PETE teacher candidates.

   Null hypothesis: Senior-level academic factors are not associated with edTPA task scores.

   Alternative hypothesis: Senior-level academic factors are associated with edTPA task scores.

   a. Is the Praxis II/content knowledge score associated with a successful edTPA score?

b. Are final grades in comparable methods coursework associated with a successful edTPA score?

c. Are final grades in comparable methods coursework associated with the edTPA task scores?

CHAPTER II: REVIEW OF LITERATURE

Piloting and implementation of the edTPA has increasingly spread across the United States' educator preparation programs since 2013 (http://edtpa.aacte.org/state-policy). The assessment is authentic; however, the process used in preparing teacher-candidates before and during the assessment can be equally authentic to each educator preparation program. The following is a review of the literature pertaining to educational accountability reform and its impact on educator preparation programs, the process of becoming a teacher-candidate and meeting universities' and colleges' various benchmarks, and the influence of academic factors on performance of the edTPA as well.

Education Accountability Reform

The 1983 report, *A Nation at Risk*, of President Ronald Reagan's National Commission on Excellence in Education alerted the U.S. that it could no longer rest on previous educational accomplishments because the "rising tide of mediocrity" was allowing other countries to exceed the U.S.' achievements (https://www2.ed.gov/pubs/NatAtRisk/risk.html). This report marked the first-time educational accountability was directed toward teachers. While no immediate legislation or initiative resulted, the conversation had begun and would lead to future attempts of government oversight and accountability in growth and achievement in schools (Mehta, 2015).

In 1996 the National Commission on Teaching and America's Future (NCTAF) released a report, *What Matters Most: Teaching for America's Future*, asserting teacher quality as the critical piece to quality education. The report specified the capability of the teacher as the strongest effect on student learning and that "recruiting, preparing, and

retaining quality teachers is the single most important strategy for achieving America's educational goals (https://www.teachingquality.org/wp-content/uploads/2018/04/What_Matters_Most.pdf , p.3). A list of goals included in the report was a key directive to educator preparation programs: all educator preparation programs will adhere and implement professional standards or cease functioning. Accountability now included educator preparation programs and began the increased requirements of candidate selection and assessment. The next twenty years would bring new education laws and amendments impacting K-12 and educator preparation programs in the form of Title II of Higher Education Reauthorization Act, No Child Left Behind, Race to the Top, and Every Student Succeeds Act. In addition, new standards from the College Accreditation of Educator Programs and the edTPA were implemented, both advocating for educator preparation program accountability and effectiveness.

Title II of Higher Education Reauthorization Act

In 1998 the United States Congress reauthorized the Higher Education Act of 1965 with Title II amendments. Section 207 of this act specifically addresses accountability for programs that prepare teachers. Each state was required to submit an annual report card to include nine points of data relative to student success and licensure assessments. The following points are specific to accountability of programs to produce qualified teacher-candidates (https://www2.ed.gov/policy/highered/leg/hea98/sec201.html):

1) A description of the teacher certification and licensure assessments, and any other certification and licensure requirements, used by the State.

2) The standards and criteria that prospective teachers must meet to attain initial teacher certification or licensure and to be certified or licensed to teach particular subjects or in particular grades within the State.
3) A description of the extent to which the assessments and requirements described are aligned with the State's standards and assessments for students.
4) The percentage of teaching candidates who passed each of the assessments used by the State for teacher certification and licensure, and the passing score on each assessment that determines whether a candidate has passed that assessment.
5) The percentage of teaching candidates who passed each of the assessments used by the State for teacher certification and licensure, disaggregated and ranked, by the teacher preparation program in that State from which the teacher candidate received the candidate's most recent degree, which shall be made available widely and publicly.
6) Information on the extent to which teachers or prospective teachers in each State are required to take examinations or other assessments of their subject matter knowledge in the area or areas in which the teachers provide instruction, the standards established for passing any such assessments, and the extent to which teachers or prospective teachers are required to receive a passing score on such assessments in order to teach in specific subject areas or grade levels.
7) A description of each State??s alternative routes to teacher certification, if any, and the percentage of teachers certified through alternative certification routes who pass State teacher certification or licensure assessments.

8) For each State, a description of proposed criteria for assessing the performance of teacher preparation programs within institutions of higher education in the State, including indicators of teacher candidate knowledge and skills.

9) Information on the extent to which teachers or prospective teachers in each State are required to take examinations or other assessments of their subject matter knowledge in the area or areas in which the teachers provide instruction, the standards established for passing any such assessments, and the extent to which teachers or prospective teachers are required to receive a passing score on such assessments in order to teach in specific subject areas or grade levels.

No Child Left Behind

The Elementary and Secondary Education Act (ESEA) of 1965 was provided by President L.B. Johnson as a federal grant program to address needs in districts serving low-income students. It was rebirthed in 2002 under the G.W. Bush Administration as the No Child Left Behind Act (NCLB). The focus was on achievement gaps of disadvantaged students, and more significantly, holding schools accountable to closing those gaps. The accountability created government oversight of federal funding, monitoring annual yearly progress (AYP) toward 100% proficiency on state assessments, and identifying and/or intervening in underperforming schools. Schools had until 2014 to meet the 100% proficiency mark, but it was not reached due to limited funding, specialized services, and lack of buy-in from stakeholders (Klein, 2015).

A couple of key changes brought by NCLB were specific to teachers. First, all teachers had to be deemed “highly qualified,” meaning they had earned a bachelor’s

degree in their teaching subject and state certification. States were also charged with ensuring highly qualified teachers were evenly distributed among disadvantaged student populations/schools. Many states/districts ignored this requirement as well. Secondly, teachers' evaluations were tied to student outcomes (Klein, 2015).

Klein (2015) writes, "By 2010, it was clear that many schools were not going to meet NCLB's achievement targets. As of that year, 38 percent of schools were failing to make adequate yearly progress, up from 29 percent in 2006." In response to these statistics, the Obama administration allowed states to apply for waivers from many of NCLB's mandates. One allowance the states had to make in turn for the waivers was to implement teacher-evaluation systems that use student progress from state standardized tests.

Race to the Top

After the Great Recession of 2008, the Obama administration passed immense economic legislation the following year, the American Recovery and Reinvestment Act of 2009. This package included the largest allocation of federal monies for educational reform in U.S. history at $4.35 billion, funding the initiative of Race to the Top (RTTT). States applied for funds to demonstrate their innovative, comprehensive efforts to address four areas of school improvement: adopting internationally benchmarked standards and assessments that prepare students for success in college and the workplace; recruiting, developing, retaining, and rewarding effective teachers and principals, especially where they are needed most; building data systems that measure student success and inform teachers and principals about how they can improve instruction; and turning around the lowest-achieving schools (https://www2.ed.gov/programs/racetothetop/factsheet.html).

A critical piece of RTTT was teacher evaluation (Hallgren, James-Burdumy, & Perez-Johnson, 2017); these criteria included whether states proposed to:

- Establish clear approaches to measuring student achievement growth for individual students.
- Design and implement rigorous, transparent, and fair evaluation systems for teachers.
- Differentiate effectiveness using multiple rating categories that take student achievement growth into account as a significant factor and are designed with teacher involvement.
- Conduct annual evaluations that include timely and constructive feedback and provide teachers with data on student achievement growth for their students, classes, and schools.
- Use evaluations to inform decisions about staff development, compensation, promotion, tenure, certification, and removal of ineffective teachers,

The second phase of RTTT rewarded states for measures that connected K-12 student test performance to educator preparation programs in addition to using performance assessment scores to sanction educator preparation programs (Denton, 2013).

Every Student Succeeds Act

In 2015 President Obama reauthorized ESEA and NCLB into Every Student Succeeds Act (ESSA). Decision-making was moved back to states, allowing each to create an individualized plan for accountability goals, plans, and systems. Challenging

standards must be adopted, core content testing must occur in grades 3-8 plus one year of high school, and data must be aggregated to show achievement of subgroups. Specific to teachers, states can now define "highly qualified" as well as choose how to evaluate teachers. Professional development gained specific funding as well (Klein, 2016).

Over a decade of legislation and reform in K-12 education created change in educator preparation programs (EPP) as well. The separate educational entities have an interconnectedness that directly affects the other's initiatives and practices. Changes in EPP standards and assessment were guided by the accreditation council and influenced by the edTPA.

Council for the Accreditation of Educator Preparation Standards

In 2013 the Council for the Accreditation of Educator Preparation (CAEP; formerly known as the National Council for the Accreditation of Teacher Education) published the Next Generation of Educator Preparation Accreditation Standards, consisting of five new standards for educator preparation programs to meet in an effort to increase the quality of teacher-candidates. Standard 3 is specific to candidate quality, recruitment, and selectivity. The emphasis of component 2 under standard 3 is high academic achievement requirements in admission standards. The criteria are specific to the cohort of candidates rather than individual candidates. For program admission, the cohort must meet or exceed a minimum GPA of 3.0 as well as have a group average on nationally normed assessments (ACT, SAT) in the top 33% by 2020. The program must also show evidence of multiple measures of achievement for completion (http://caepnet.org/~/media/Files/caep/standards/caep-standards-one-pager-0219.pdf?la=en). One criticism of the standard is that it lacks attention to professional

qualities and dispositions, key traits required to be an effective educator (Dee & Morton, 2016).

Educative Teacher Performance Assessment (edTPA)

Due to updated legislation and standards, educator preparation programs and states needed a rigorous licensure process to prove graduates were prepared to effectively perform in the classroom. Administrators in K-12 needed to hire teachers who would be effective in helping students achieve and show academic growth each year (Crowe, 2011). Their needs increased as the standards of accountability became more demanding and incentivized with the federal legislation of Race to the Top (www2.ed.gov/programs/racetothetop/factsheet.html). In 2007 California led the way with new standards for teacher education programs, requiring a new benchmark to show readiness to teach. Over a dozen programs collaborated to create what would be known as Performance Assessment for California Teachers, a performance-based evaluation of teacher-candidates. PACT required candidates to demonstrate mastery of the knowledge, skills, and abilities required of a beginning teacher through performance with K–12 students (Ajayi, 2014). The PACT was deemed valid, reliable, and successful upon implementation. By 2009 the group had grown to over 30 California programs and resulted in TPAC, the Teacher Performance Assessment Consortium. Along the same time, federal grant monies became available to states through Race to the Top (RTTT) which required states to take measurable steps to produce high quality, ready-to-teach candidates. TPAC alongside Stanford Consortium on Assessment and Learning in Education (SCALE) revised PACT from its California framework to be a national assessment; these changes gave birth to Teacher Performance Assessment (TPA) which

is now known as Educative Teacher Performance Assessment, edTPA. The final product reflects the National Board Certified Teacher and PACT portfolios (Denton, 2013). Key similarities among these portfolios are scoring is completed by an outside source and the candidate's dispositions are not assessed (Dee & Morton, 2017; Heil & Berg, 2017). SCALE partnered with Pearson Education, Inc., the for-profit education and assessment service for schools and corporations, to give the assessment a national, online platform for submissions to be evaluated by trained scorers (Parkes & Powell, 2015).

The edTPA officially rolled out in 2013 after a three-year pilot study. Individual teacher education programs and states begin to buy into the new process of evaluating candidates. The edTPA fit the Race to the Top requirement for states to gain financial incentives for developing effectiveness measures linking K-12 student test performance to teacher education programs as well as means to sanction educator preparation programs (Denton, 2013). As of December 2020, approximately 866 programs in 41 states plus the District of Columbia utilized the edTPA. Of those 41 states, 17 had specific policies in place for the use of it while two more were in the process of adding one. States determine the cutoff score for passing and whether those scores have consequences for licensure. The current nationwide range for a minimum passing is 37-43 combined across 15 rubrics (Appendix B) (http://edtpa.aacte.org/state-policy).

Policies and Politics in Practice

Educator preparation, specifically accountability, remains a controversial and ongoing dilemma after decades of legislation, initiatives, and assessments (Cochran-Smith, Carney, Keefe, Burton, Chang, Fernandez, Miller, Sanchez, and Baker, 2018; Crowe, 2010; Parkes & Powell, 2015; Reagan, Schram, McCurdy, Chang, & Evans,

2016). While the items outlined in the previous section were implemented with intentions of improvement and solutions, the foundational issue is the implementation and impact each has on individual programs operating in different geographical areas and different guiding philosophies. The following section highlights the tension in EPPs between policies and politics in actual practice.

Title II of the Higher Education Amendments (1998) added the requirement of a yearly report card from educator preparation programs for accountability purposes. Publishing programs' test results data was meant to be the key piece to highlight those who were or were not doing well, keeping them accountable in the public eye. However, a considerable number of EPPs and state agencies amended testing guidelines to require all teacher tests to be passed to be able to graduate. Therefore, EPPs were able to report 100% pass rates regardless of how many attempts candidates had to take any of the tests (Crowe, 2010). Therefore, education preparation appeared to be highly effective.

The Center for American Progress published a document written by Crowe, *Measuring What Matters: A Stronger Accountability Model for Teacher Education*, in 2010. Crowe offered a multi-step plan for EPP reform; one of those steps was for a new system of teacher licensure tests to be designed and implemented. The recommendation further stated all states should adopt the same tests and pass rate policies to create one set of standards to define quality regardless of where candidates graduated or became employed. The issues fueling these proposals were that more than 50 versions of standards, policies, and accountability systems with 1,100 different assessments existed. Crowe (2010) claimed "this mish-mash" (p.8) created confusion about what EPPs were both measuring and reporting. He referenced medicine, nursing, engineering, and

accountancy each having one system of accountability for quality, and therefore education could do the same with new, uniform tests. Crowe (2010) defined these "better" tests to be high quality tests "linked to important teaching knowledge and learning outcomes, and validated by independent studies with transparent findings" (p.8). He further argued that the public did not understand the accountability process within education and policymakers doubted the system ensured effective teachers or protected the public from weak programs.

In addition to the Center for American Progress and Crowe's call to change educator preparation accountability, the development of the edTPA and the Race to the Top initiative occurred in the same timeframe. The Teacher Performance Assessment Consortium (TPAC) was formed with the goal to link teacher and student performance with valid and reliable data that would guide pre- and in-service teacher training. TPAC's goal would result in the product of the edTPA which would provide data that states could use to direct quality initiatives, establish initial licensing, and determine program accreditation. The assessment was viewed as a significant improvement on the disparate standards that contributed to the public's low esteem of education. Proponents, like Darling-Hammond, Pecheone, and Whittaker, had the perspective that teacher quality would improve with the use of the assessment which in turn would increase teacher quality and public opinion (Cochran-Smith, et al, 2018).

States' adoption of the edTPA relied on several key points: institutional credibility of the assessment, common expectations and highly rigorous assessment, and prevalent implementation across the nation (Reagan, et al, 2016). These points reflected policymakers' views on education as well as how the edTPA specifically met the needs

of assessment. The reputation of the assessment preceded itself because it was from Stanford, known for high quality teacher preparation. Furthermore, the assessment was favored by policymakers because it was developed "by educators for educators" (https://aacte.org/faq/edtpa). The edTPA data would provide a formative assessment for the EPP while also providing a summative assessment of the candidate. The common expectations and rigor reflected the practices of the highly respected fields of law, nursing, and medicine which provide quality control through one assessment system. Lastly, the prevalence across states and programs created momentum for others to adopt it as well. In 2014, the American Association of Colleges for Teacher Education (AACTE) advocated implementation of the edTPA across all states in the U.S. to address the need for a common, standards-based, and performance-based assessment to measure aspiring teacher's readiness and EPPs improvement (Cochran-Smith, et al, 2018; Reagan, et al, 2016). AACTE (2020) describes the edTPA as an authentic and standardized assessment, measuring performance and decision-making in real-world teaching placements measured by a common set of standards (similar rubrics across all 27 subjects-specific handbooks) (Appendix B). The portfolio is designed to be used as a summative assessment near the end of educator preparation as one of multiple measures of skills, practices, and performances to determine candidates' readiness to teach and obtain licensure (http://edtpa.aacte.org/wp-content/uploads/2020/06/edTPA-FAQs-May-2020.pdf). Because states do not require technical review for teacher-candidate assessments, as they do for K-12 student assessments, they had to rely on the claims of the portfolio developers and advocates (Gitomer, Martinez, & Battey, 2021).

Reagan and colleagues (2016) analyzed six states' policies regarding the edTPA in 2014. The authors draw concern to the original intent of a performance assessment created by educators for educators when AACTE and the Stanford Center for the Assessment of Learning and Equity (SCALE) added Pearson Education, Inc. as an operational partner. Pearson Education, Inc. is a private corporation with lobbying budgets beyond a million dollars in a fiscal year (Potter, 2021). Portfolio scorers are contracted and trained by Evaluation Systems, a group of Pearson Education, Inc.; they also store all portfolio data. The concern was the addition of another partner, especially one that was external and a highly profitable entity, creates multiple and/or competing agendas and strategies that impact the discourse and direction of the assessment (Reagan, et al, 2016). Gilbert and Kuo (2019) criticize corporate presence in education reform using Fashing-Varner's and colleagues' description of it as "an opportunity for corporate profit anchored in school failure." Reagan and colleagues further argue that decision-making at the national level marginalizes the voices of mentor teachers, university supervisors, and EPP faculty who already had varying, even controversial, degrees of participation in the process. The edTPA had support from many stakeholders who viewed it as means to fulfill different roles. This lack of cohesion led to disagreement about which stakeholders should be valued as experts (Reagan, et al, 2016).

Cochran-Smith and colleagues (2018) echoed Reagan's and colleagues' analysis when questioning whether the edTPA can be considered a single assessment when it is implemented in various ways by different stakeholders for several purposes. Most criticisms of the edTPA are based on power and control of decision-making. These arguments focus on national stakeholders, such as Pearson Education, Inc., and state

stakeholders, such as boards of education or legislature, diminishing the local control EPPs desire for making choices that best reflect their programs and candidates. Critics of national decision-making by corporations claim education is empowering private enterprises to decide who can become teachers (Gilbert & Kuo, 2019), which does not align with the original intent of the edTPA to be "an assessment by educators for educators" (https://aacte.org/faq/edtpa). The variations of implementation, local context, EPP demographics, and EPP faculty buy-in paired with state-level policy choices (i.e., consequential to license, cut-off scores) are contended against AACTE's and SCALE's description of the edTPA as a common assessment (Cochran-Smith, et al, 2018). Gilbert and Kuo (2019) contend a key issue in overlooking the local-level context and voice is that the edTPA is intended to be a formative assessment for educator preparation programs yet none of the national partners support program improvement or help determine how/why poor results occur.

Another documented concern of the edTPA as a standardized assessment is the evidence of bias against traditionally marginalized populations (Gilbert & Kuo, 2019). Potter (2021) notes that national data (https://secure.aacte.org/apps/rl/resource.php?resid=647&ref=edtpa) reveals African American/Black teacher candidates have the lowest mean score of any group between 2015-2017; White teacher candidates averaged a score of 45 compared to African American/Black candidates average of 42. Furthermore, since 2016 teacher candidates in suburban placements have scored higher than candidates in other settings which gives advantages to White candidates who teach in low-poverty schools made up of mostly White, English-speaking students. Pecheone on behalf of SCALE responded to the

concern with a statement of commitment to equitable assessment as well as a warning not to overgeneralize the small sample size of African American/Black candidates (Potter, 2021). Gilbert and Kuo (2019) claim the edTPA experiences in low-poverty settings will extend the marginalization by EPP avoiding placements in high-need schools in favor of passing the edTPA as well as candidates choosing suburban schools for their careers.

The EPP examined in this dissertation is within a Tennessee university, and Tennessee was one of the first states to be awarded RTTT funding ($500,741,220) (Crowe, 2011). Tennessee soon thereafter became a member of the TPAC. Tennessee piloted the edTPA for three years (2010-2013) while consulting with Pearson Education, Inc. and EPPs (Reagan, et al, 2016). Tennessee adopted the edTPA in 2013 as an option for program completion and/or as an alternative to the Praxis PLT. Policy was to be decided by each EPP (Reagan, et al, 2016). In January 2019, the Tennessee State Board of Education made the edTPA consequential for all candidates' initial licensure, fully replacing Praxis PLT (https://www.edtpa.com/PageView.aspx?f=GEN_Tennessee.html).

The Process of Becoming a Teacher-Candidate

Assessment and evaluation begin and end the process of teacher candidacy. Students are required to apply and meet requirements to be accepted into educator preparation programs just as law schools and medical colleges have selection exams and prerequisites determined by state governance. Selection of candidates' is a form of evaluating whether they have the potential or prerequisites to be successful. Educational experts do not have one agreed upon definition of teacher quality or quality teacher preparation (Hightower, Delgado, Lloyd, Wittenstein, Sellers, & Swanson, 2011).

Therefore, programs create their own standards and benchmarks based on their definitions of quality.

Their processes are similar, but their minimum expectations vary. The entrance step involves standardized testing in some form while the exit step can add another layer with performance assessments created within the university or at a national level. Hightower, Delgado, Lloyd, Wittenstein, Sellers, and Swanson (2011) noted the mixed results of research that have tried to define quality teaching using variables such as GPA, licensure tests, coursework, and degrees. However, the data did not provide a clear-cut set of standards. GPA and ACT have been cited as predictors of success to the teacher-candidate exam (National Teacher Exam) since 1973 when Quirk, Witten, and Weinberg performed a meta-analysis of literature. GPA and standardized tests, particularly Praxis Core and Praxis II, are commonly used as part of admission into educator preparation programs despite potential problems each encompasses (Evans, Kelly, Baldwin, & Arnold, 2016).

Process-Product Paradigm

To understand the variables in the process of becoming a teacher-candidate, this literature review will examine the process-product paradigm through the lens of teaching variables as presented by Dunkin, Biddle, and Mitzel.

Dunkin and Biddle (1974) distinguished four variables of teaching based on the research of Mitzel (1960, as cited in Dunkin and Biddle, 1974): presage, process, product, and context. Three of the four variables are considered for this literature review and research: presage (GPA, standardized test, and writing skills), process (performance assessments), and product (the edTPA, educator preparation program changes, and

coursework). The fourth variable, context, is not specifically reviewed or analyzed in this research; however, the presence and effect of it is evident in the variations of the states' and educator preparation programs' use and measurement of presage, process, and product variables.

Presage Variables

The adjective of presage refers to "a sign or warning that something, typically bad, will happen" (dictionary.com). For this context, presage variables represent the data used for benchmarks that can prevent students from becoming a teacher-candidate or teacher. Presage variables are the characteristics of teachers/teacher-candidates that can be examined for the effects on the teaching process (Dunkin and Biddle, 1974). These characteristics are gathered from formative experiences, teacher-training experiences, and teacher properties. These variables fall under a general rule that administrators or EPP can have a level of control on them. Teacher-candidates are selected or rejected for EPP based on background experiences. Presage variables also affect the process variables, which will be discussed later. The following section will focus on formative, background, academic experiences to entering the teaching program measured by the presage variables of GPA, standardized tests, and performance assessments.

Grade point average. Minimum grade point averages are typical for entrance and completion of programs. The grade point average provides an overall picture of a candidate's academic performance, is easy to access, and provides a means of comparison and/or criteria. GPA was originally studied as a predictor of success for preservice teachers in 1916 by Mead (D'Agostino & Powers, 2009). Mead attempted to create a rating system consisting of only the most correlated variables to practice teaching

in high school. He suggested GPA weight be split into thirds to represent general courses, methods, and subject matter. However, the criteria each program is deeming from the GPA is not necessarily the same. Programs can be seeking students with academic ability, prior success, basic skill competence, or a common measure of comparison, yet all use the same GPA. Therefore, GPA alone is not a stand-alone indicator for teacher-education. For example, data from the 2012 National Center for Educational Statistics show 83.9% of 2007-08 graduates who received a bachelor's degree in teaching had a final GPA of 3.0 or higher yet 33.6% of those candidates took remedial courses in college (https://nces.ed.gov/pubs2013/2013153.pdf).

GPA has been statistically correlated to scores on licensure exams; higher performance in the classroom indicated by GPA yields a higher overall score on professional exams (Jones, McDonald, Maddox, & McDonald, 2011). A Virginia program analyzed 196 undergraduate candidates' GPA and state licensure exam scores to find a statistically significant relationship between the two performances ($p < .001$) (Jones, McDonald, Maddox, & McDonald, 2011). Admission GPA and various assessments combined accounted for 70% of the 30 teacher-candidates' overall success in a multiple linear regression analysis performed at a Texas educator preparation program. Moreover, the most significant finding was that admission GPA was the only significant predictor (Garza, Mundy, Varela, Ybarra, & Yuma, 2016). However, in a study of early childhood education candidates, Bowers (1998) examined the ACT scores and college GPA of 129 undergraduate early childhood majors to success in student-teaching. A linear regression analysis did not find a relationship between student-teaching and either

of the two variables. One indicator is of course performance(GPA), another is of test performance (ACT), while the third is of teaching performance. Results indicate GPA is used as a measure of potential knowledge attainment rather than potential effective teaching (Bowers, 1998).

Standardized tests. Scores from standardized tests are commonly used data alongside GPA at the entrance point. The scores can be from the ACT and/or SAT taken in high school or college, Praxis Core tests (formerly Praxis I, formerly pre-professional skills test/PPST) consisting of reading, writing and math skills, or a state-specific test. As of May 2018, 25 states including the District of Columbia required Praxis Core tests for program entrance (www.ets.org/praxis/states).

Upon program completion and to obtain a license, educator preparation programs are required by their respective states to use Praxis Professional Learning and Teaching (PLT) test, Praxis II test (content specific tests; formerly the National Teacher Exam) and/or a state-specific test. As of May 2018, 45 states including the District of Columbia required Praxis II test for licensure (www.ets.org/praxis/states). States set a minimum passing score for licensure. Teacher-education administration and faculty have the autonomy to design their own programs, but the Praxis series exams do not allow customization to content (https://www.ets.org/praxis/states_agencies/adoption_process/).

The consensus of research is students who enter college with stronger academic scores, meaning stronger academic skills, tend to perform better on most academic outcome measures in college (Clark, Kara-Soterious, & Alfano, 2017). Burke (2005) credits the meta-analysis of the University of Minnesota researchers who found the SAT to be a valid predictor of success in college. The meta-analysis determined the SAT

predicts GPA, study habits, perseverance, and degree attainment (Morrison, 2002, as cited in Burke, 2005). Morrison's work also revealed scores on state nursing board exams were related to SAT, making it a predictor of success to entering the nursing field. Burke (2005) then examined GPA, SAT, and state licensure exam scores to determine if the same were true for teaching as nursing. She conducted correlational and regression analyses of 40 female, elementary and special education candidates' scores. Results revealed state licensure exams and college GPA were most strongly associated with the SAT, (r = .625 and r = .334, respectively). Data showed students with lower SAT scores had to take the license exam more than once to be successful, and SAT scores were the single best predictor of passing the exams.

The study also found that high school GPA was not a strong predictor of success on the state teaching license exams despite being the best predictor of success in college (r = .630 and r = .564, respectively). This research is aligned with the argument within legislation and education to use tests and GPA as admission points. Selke, Mehigan, Fiene, and Victor (2004) summarized the conversation of policymakers as a theme of "there may be no research that shows tests predict a teacher's performance but there's nothing out there that shows they don't either" (p. 20).

Prior academic success may also indicate success in educator preparation programs (Dee & Morton, 2016). The researchers separated 355 candidates by their admission GPA, those below 3.0 and those above 3.0. Results indicated GPA was not significant in teaching performance; no relationship was shown between the lowest GPAs and the respective students' final clinical practice evaluations. The issue is whether performance in college equates to effective teaching due to the environmental,

professional, and dispositional qualities that are not measured on paper-pencil tests. For example, teaching is subject to variables that teachers must appropriately respond and adapt to such as students' poverty, family structure, culture, and access to services (Dee & Morton, 2016).

Evidence of Praxis I/Core and Praxis II score correlations exist as well. Logistic regressions were used to understand the relationship of Praxis I and II scores of almost 28,000 candidates in 4 different majors and from 28 states (Gitomer, Brown, & Bonett, 2011). Candidates who passed the Praxis Core tests at borderline levels were far less likely to pass Praxis II test than were candidates who met the median state level; difficulty with basic skills of reading, writing, and math is an indication of later obstacles (Gitomer, Brown, & Bonett, 2011). While writing is not measured on Praxis II tests, poor writing might indicate later difficulties in performing basic instructional tasks such as developing curriculum documents. Owens-Oliver (2014) also found score correlations between Praxis Core and Praxis II. Passing all three parts of Praxis Core tests was statistically significant to Praxis II content areas of elementary education, English, social studies, and math. The effect sizes were small yet larger than any of the other predictor variables' effect sizes.

Conversely, D'Agostino and Powers (2009) concluded from a meta-analysis of 123 studies, 29 specifically of pre-service teachers, that standardized achievement test scores were modestly related to teaching competence, and the scores only provide evidence of pre-service performance. In addition, no relationship between PPST or ACT and success in student-teaching was found in multiple studies (Bowers, 1998; Dybdahl, Shaw, and Edwards,1997; Hickens, 1992) of teacher-candidates. However, ACT and PLT

test scores were significantly correlated with the Renaissance Teacher Work Sample (TWS), a culminating project for student-teaching (Kirchner, Evans, & Norman, 2010). Stepwise regression analyses revealed the correlations in a study of 396 teacher candidates representing seven content areas across K-12.

Grade point average and standardized test scores relative to performance assessments. Academic characteristics of teacher-candidates affect a candidate's performance assessment. Both GPA and Praxis tests have been examined for correlations to edTPA scores. More data is available for GPA than Praxis tests as well as more positive correlations for GPA than Praxis tests. This data can possibly provide better predictability of candidates' skills to successfully teach because previous research indicates that traditional measures of standardized tests and GPA are not accurate predictors because they do not account for context of learning on paper (Dee & Morton, 2016; McNeal & Lawrence, 2009). The edTPA data occurs in real-time classroom settings and allows commentary that better reflects the context and decision-making of teaching.

Cumulative GPA was statistically significant and accounted for 12.8% of the explained variance of edTPA total scores in a recent study of 112 teacher candidates at a public New Jersey university (Gouraige, 2016). GPA and age were both statistically significant, yet GPA was the stronger predictor of edTPA scores. Gouraige notes the implication of these results is the minimum GPA set for entrance into educator preparation programs should be a meaningful score that recruits and accepts high-achieving students. GPA was also the common, positively significant indicator in a North Carolina study of 390 undergraduate elementary education teacher-candidates' edTPA

overall and task scores (Cash, Putnam, Polly, & Byker, 2019). A regression analysis revealed higher GPA scores were consistently associated with higher final edTPA scores.

Research reveals GPA as a more strongly correlated indicator of success to teacher-candidates' performance assessment scores than Praxis scores which had little correlation (Wilson and Robinson, 2012 as cited in Evans, et al, 2016). A theory of these results is GPA includes course assessments of teaching practices while standardized tests do not reflect the ability to perform in a classroom (Wilson and Robinson, 2012 as cited in Evans, et al, 2016). D'Agostino and Powers (2009) examined over 120 studies to find licensure/Praxis scores were less of a predictor of teaching success in the classroom than GPA. Specific to the three task scores and overall score of the edTPA, both overall and major GPA of 43 early childhood education candidates were statistically significant to each task and overall score with moderate to substantial effect size. Spearman's Rho ranged from .519 to .613 for overall GPA to the edTPA tasks; it ranged from .511 to .643 for major GPA ($p < .05$) (Evans, et. al, 2016).

A 2017 Washington state study (Goldhaber, et. al) found a positive correlation between edTPA performance and the Washington Educator Skills Test-Basic, which is similar to Praxis Core measurements of reading, writing, and mathematics. Conversely, a small-scale study revealed weak and moderate negative correlations between Georgia standardized tests (again similar to Praxis II test) and edTPA scores (Russell & Devall, 2016).

Praxis II Professional Learning and Teaching (PLT) scores of 69 teacher candidates were specifically analyzed for relationships to edTPA scores. The overall PLT score was found to be highly correlated ($p < .01$) to all edTPA task scores and overall

score (Nelson, 2014). The same study also examined GPA relationships and found it to be the only variable among gender, PLT score, and ethnicity to show a significant relationship with edTPA task one (planning). However, when PLT scores were added to the same list of variables for analysis, GPA became insignificant while the PLT scores became significant to edTPA tasks. This finding suggests a candidate with a high PLT score would also score high on the edTPA. GPA was a predictor of PLT and edTPA, meaning candidates with a high GPA will likely score high on PLT as well as create higher quality portfolios for the edTPA (Nelson, 2014).

Gimbert and Chesley (2009) analyzed Praxis I/Core scores of 100 teachers across K-12 subject areas with varying years of experience who were hired in a three-year period with Praxis scores as a determinant. A regression analysis was performed to determine whether relationships between Praxis scores and teacher performance assessment existed . A statistically nonsignificant ($F(1.98) = 0.860$, $p = .345$, $b = -.053$) relationship was confirmed. However, the authors of the study note the two tools assess different characteristics (knowledge versus performance); therefore, "the lack of statistically significant relationships between the Praxis Series data and the corresponding TPA data may be attributed to the fact that the Praxis Series is designed to measure a candidates content knowledge of reading, writing, and mathematics and does not begin to identify those pedagogical characteristics measured by the TPA" (p. 69).

Writing skills. The edTPA requires many written materials including lesson plans, assessments, and commentaries. The largest piece of evidence scored is the written commentaries, one for each of the three tasks (planning, instruction, and assessment). Commentaries require a cohesive, reflective, and in-depth analyses of teaching and

learning in response to specific prompts (Stanford Center for Assessment, Learning, and Equity, 2019).

Stegemann (2014) voiced concerns of educator preparation programs who admit candidates with high GPAs, yet the same candidates do not demonstrate strong, effective writing skills in course or field work, in particular assignments that do not allow multiple revisions. Edmundson (2017) also highlights the edTPA is not only a performance assessment but also an assessment of writing about teaching. During the pilot period of edTPA, Language Arts and Social Studies candidates had the highest national scores. This trend can arguably be credited to the greater training in writing these candidates have compared to their peers in other content areas (Edmundson, 2017). Due to time constraints and guidelines for limited feedback from supervisors and mentors, edTPA commentaries require highly effective writing skills and limited revisions (Donovan & Cannon, 2018; Ratner & Kolman, 2016). Teacher-candidates and supervisors both identified writing as a variable that could alter the perception and understanding of the actual teaching and learning that took place in the portfolio segment as found in a three-year qualitative study of one's university piloting of the edTPA (Paugh, Wendell, Power, & Gilbert, 2018). Zhou (2018) shares a teacher-candidate's perception that his readiness to teach was not fully portrayed in the edTPA because of "how much that went into teaching while the edTPA was mostly about writing and reflecting" (p. 59). Another one of the Zhou's four participants expressed concern, questioning if her writing showed scorers who she was as a teacher due to a score of 1 on the classroom environment rubric yet consistently receiving high praise for the element from supervisors and a mentor. Likewise, writing test scores had a negative correlation to teaching competencies,

meaning the lower the writing scores the better the candidate was at implementing diverse instructional strategies, content-specific pedagogy, and communication skills (Selke, et al, 2004). Selke and co-authors (2004) pointed out the thought processes required to make decisions, often simultaneously with implementation of instruction, are not the same skills required to write effectively (p. 26). Sandholtz and Shea (2012) used correlations, frequencies, and range of differences of the supervisors' rankings of 337 candidates over a two-year period compared to the respective candidates' actual scores on the TPA. Supervisors underpredicted the performance of high-performing candidates while overpredicting the low-performing candidates. These findings agree with Selke, et al (2004) that candidates who may be effective teachers in the classroom are not necessarily skilled in writing about their practices.

Denton's (2013) case study of 74 undergraduate and graduate candidates at a northwest U.S. university found writing to be effective on the edTPA when it was "analytical and concise, with frequent reference to lesson, video, and student work sample evidence" (p. 30). Furthermore, writing the maximum number of pages per commentary was not indicative of a high score. The portfolios were submitted during the same quarter after some edTPA training had been received.

These formative, background, academic experiences measured by programs are common practice as evident in the amount of data available regarding their influence. Each has been connected to success, or lack thereof, in higher education. Presage variables, individually and collectively, affect the process variables of teaching as measured in performance assessments.

Process Variables

The second variable to examine from Dunkin and Biddle's (1974) list is process variables. Process variables are represented by the "actual activities" of teaching, all of the observable behaviors (Dunkin & Biddle, 1974; p. 44). In this case, the actual activities are occurring within educator preparation programs.

Performance assessments.

Changing legislation and professional standards at the turn of the 21st century caused changes in educational focus at the state and higher education levels. One key change was examining the role of performance assessments to meet the expectation and needs of high-quality graduates. Performance assessments specify what teacher-candidates should be able to do in a real teaching context and can improve teaching when appropriately designed (Caughlan & Jiang, 2014). The most common of these assessments are teacher work samples, portfolios, and annotated units created and scored in-house as well as the edTPA created and scored by third parties (e.g., SCALE, Pearson Education, Inc.). All options require evidence of planning, instruction, assessment, theoretical framework, reflection, and analysis of selected focus students.

Researchers at New York colleges developed an annotated unit to respond to National College Accreditation of Teacher Education (NCATE) requirements and document effectiveness of teacher-candidates (Murray, Grande, DiCamillo, Henry, J., & Henry, D., 2008). The benefits to the candidates were improved connections between theory and practice, thinking more about individual students' needs, and finding new ways to assess. The program also benefited from building collaboration between faculty

and mentor teachers, revising course assignments for alignment of program goals, and a comprehensive evaluation system.

Portfolios provide data of teacher-candidates' skills and knowledge gained through coursework and reflection of practices from clinical experiences/student-teaching. Data is created through multiple items, often including authentic assessments (Henry, Campbell, Thompson, Patriarca, Luterbach, Lys, & Covington, 2013). Validity of portfolios are often questioned due to the lack of training and understanding of what candidates should know and be able to do by those who score them (Henry, et al, 2013). Furthermore, the components measured vary from program to program, creating an inconsistent standard of quality for licensure (Henry, et al, 2013). Parkes and Powell (2015) advocate for portfolios because of the meaningful experience provided to students over a period of time rather than a unit of teaching, the inclusion of context, and the ability to be assessed by multiple raters. Schalock and Myton (1988) argued almost three decades earlier for portfolios with multiple samples at varying points as more reliable evidence to determine patterns of skill and understanding.

Another issue of portfolios is the assessment of dispositions. Dispositions consist of professional attitudes, values, beliefs, and behaviors that are difficult to define and measure. Dispositions are key to teacher effectiveness because they underscore teachers' interactions with students, families, and colleagues, and communities (Henry, et al, 2013).

One of the first teacher performance assessments was Beginning Educator Support and Training (BEST), developed in 1986 in Connecticut to improve teacher quality (Denton, 2013). The assessment included rubrics, writing prompts specific to the

subject, lesson plans, video-recordings, and student work samples. Specific portfolio tools have since been developed by the Teacher Performance Assessment Consortium (TPAC) and the Interstate New Teacher Assessment and Support Consortium (INTASC) that are widely utilized by educator preparation programs.

The latest option, the edTPA, officially rolled out in 2010 after a three-year pilot study. Individual educator preparation programs and states begin to buy into the new process of evaluating candidates. The performance assessment is scored by experienced PK-12 teachers or EPP faculty with pedagogical content knowledge in the field of scoring who pass training and qualification standards. States determine the cutoff score for passing and whether those scores have consequences for licensure. The current nationwide recommended range for setting pass scores is 37-43 combined when using the 15-rubric portfolio.

One of the most highly referenced defenders of edTPA is one of the creators, Darling-Hammond. Darling-Hammond with Hyler (2013) proposes that teacher effectiveness is greatest when assessment supports the candidate and improves the preparation program. She notes that student-teaching is the most frequently cited factor as the most influential learning experience for the teacher-candidate; therefore, a performance assessment during this experience provides real-time evidence of the candidate's abilities and practices.

Crowe (2011) argues that most candidates complete the Praxis tests (PLT and/or Praxis II) before their final residency/student-teaching, which does not provide a final product of the candidate's abilities. The edTPA provides the platform to "show" use of knowledge while Praxis tests only allows candidates to "tell" their knowledge. Caughlan

and Jiang (2014) counter that observation instruments are the essential performance assessment as they provide the same means without being high-stakes and limited to one-time. A high-stakes performance assessment views the product of learning, and teaching in this case, as a product that will be duplicated. The following section will discuss how presage and process variables affect the product variables.

Product Variables

The third and final variable to examine from Dunkin and Biddle's (1974) list of teaching variables is product. Product variables are the outcomes of teaching, the changes in students as a result of involvement in classroom activities with teacher and peers. Dunkin and Biddle point out that product variables can be positive and negative although the positive gets most of the attention. As presage variables (background experiences) affect process variables (teaching activities), they in turn affect product variables (teaching outcomes). In this context of review and research, the product variables are observable in the choices and changes in both program and course design.

The product of the edTPA. The edTPA is categorized as an authentic assessment, an application of knowledge and skills in a real-world setting. However, the standardized process of the edTPA does not account for contextual factors of the educator preparation program, teacher-candidate, placement school, or K-12 student participants (Parkes & Powell, 2015). Darling-Hammond (2010) supports performance assessments, specifically for teaching, as "a much more potent tool for evaluating teachers' competence and readiness, as well as for supporting needed changes in teacher education" (p.5). On the opposing side of Darling-Hammond, Lin (2015) highlights the nature of teaching in light of a standardized test. Learning opportunities are based on the

context and personal characteristics of the teacher and learner, which applies to the educator preparation program as well as the student-teaching experience (Lin, 2015).

Across the country, state departments of education determine licensure requirements which in turn makes decisions for EPPs. One of these decisions is to utilize the edTPA then "the faculty have limited options but to prepare the candidates for this assessment" (Bhatnagar, Kim, & Many, 2017, p30). This implementation affects many departments within EPPs due to the likelihood of different pedagogical approaches and foci of programs that the edTPA will disrupt or delete. Therefore, the buy-in for its use is not a guarantee or even a consensus among faculty and administration. Participation in the edTPA influences the training provided by educator preparation programs (Goldhaber, et.al, 2017). The support of faculty is crucial as they are the ones responsible for preparing teacher-candidates with the necessary teaching and assessment skills to produce a passing score.

This issue led to qualitative research by Peck, Gallucci, and Sloan (2010) that indicated the implementation and practices of the edTPA are dependent on both the program and the faculty. All full-time and part-time faculty (n = 35) participated in free-write responses, program planning, and open-ended questionnaires to share personal experiences with the TPA implementation. Educational philosophies created a multitude of opinions and stances on performance assessment, teaching strategies, and content of courses, which created tension among faculty and practices. In turn, the differences also effected the buy-in of the edTPA.

Sato (2014) questions the underlying conception of teaching the edTPA in regard to programs' pedagogical focus versus the teaching context of practicum. He describes

choices that teacher-candidates are not offered when the practicum placement uses an approach that does not align with the edTPA rubrics and evidence. For instance, a placement that uses a highly scripted curriculum does not value pre-assessment, classroom discourse, or feedback loops, which are significant in the edTPA portfolio. Another context described is that of a practicum placement with a critical pedagogy approach, which does not focus on pre-determined goals and knowledge construction that are assessed in the edTPA rubrics (Appendix B).

Ledwell and Oyler (2016) examined 12 educator preparation programs, represented by 19 faculty members, to determine whether "the edTPA served its intended roles as a gatekeeper to the teaching profession and a catalyst for curriculum change" (p.120). While being a "gatekeeper" was not found to be true in the study's context, the edTPA was found to be a "curriculum improvement lever" that created "a wide variety of consequential program-level gatekeeping practices" (p.120). The three levels of change were defined from least to most curriculum impact (p.125) (Table 1).

Programs making only Level 1 changes were most frequent (7 of 12), meaning the edTPA was deemed external to the existing curriculum and no curriculum changes were made. Level 2 changes were reported the least (2 of 12), which resulted in no new topics being added to the curriculum but extending or deepening some topics. Level 3 changes were made by 5 of 12 programs that deleted valued content and added new content in response to the edTPA. The authors of the study did not analyze the levels of change in comparison to the edTPA scores; therefore, the impact of the changes on the product are not known. The three levels represent the types of changes that can result from

implementation of the assessment. The timing of the changes is also important, whether they are unintended, proactive, or reflective.

Table 1.
Levels of Change

LEVEL 1 – Course Curriculum Kept Intact
• edtpa GA met with candidates • Created voluntary edTPA workshops • Created study halls/boot camps • Used video in student teaching more than before • Relabeled some course content to align with edTPA idioms
LEVEL 2 – Minor Course Curriculum Revisions
• Integrated more focus on lesson planning • Integrated more focus on formative assessment • Integrated more focus on planning lessons in sequence • Integrated more focus on assessment practices • Changed course sequence
LEVEL 3 – New Course Curriculum Created
• Created a new lesson plan format • Created a new student teaching evaluation • Added content: new focus on ELL, IEPs, and 504s • Integrated practice edTPA into a methods class • Redesigned ST seminar with edTPA at enter • edTPA completion become a primary focus on student teaching • Program's culminating assessment changed • Gave up content they valued

Unintended changes. The edTPA is designed to promote reflective, critical-thinking teachers who can analyze learning rather than only teacher behaviors. Ironically, candidates' foci are shifting from their students' performance to their own in a worried effort to deliver what "looks good and fits" (Sapon-Shevin & Novinger Robb, 2017, p. 62) within the edTPA portfolio. Meanwhile, educator preparation programs are fighting

the conflict of "abandoning valued content in favor of the content privileged in the exam," preparing teachers that reflect the program and teaching them to perform well on the assessment (Cronenberg, Harrison, Korson, Jones, Murray-Everett, Parrish, & Parsons, 2016; Ledwell & Oyler, 2016). The edTPA is prompting changes as early as its first year of implementation due to the stakes attached to it rather than the capacity to be a formative assessment of the program. The high stakes for candidates cause programs to teach toward the test by learning how to prepare portfolios that satisfy the rubrics and garner a passing score (Cronenberg, et al, 2016). Correct writing and format become a part of preparation as well. Faculty's focus on the summative role of edTPA intensifies the stress experienced by candidates. Candidates' perceptions and expectations could be increased with strategic supports, use of exemplars, and use of rubrics in courses (Heil & Berg, 2017).

These changes are summarized by Greenblatt (2019) in her discussion of conflicting perspectives of objectives and experiences of the edTPA in New York. She highlights the law of unintended consequences, policy paradoxes, and Campbell's Law as issues universities are facing. The law of unintended consequences describes policies created for one purpose typically create an additional set of results that were not intended from the original plan. The new policies can be opposing yet working toward the same goal as stakeholders have varying priorities, thus creating a policy paradox. A third layer is present when the intent of the policy is dishonored and becomes high stakes, when the test score becomes the goal of the educational process. The process and the policy are now inaccurate, resulting in Campbell's Law.

For example, the edTPA portfolio has rules and policies for its standardized process for candidates, faculty/supervisors, and cooperating teachers relative to the integrity of data and procedures to complete and submit. Faculty from an Illinois education program noted in a narrative inquiry study that requiring candidates to read the handbook was not an effective or well-used strategy (Cronenberg, et al, 2016). Candidates did not bother with learning the details for themselves, yet faculty felt preoccupied by all the rules. The self-study analysis revealed high-stakes, time limitations, and performing to the edTPA caused candidates to have fewer discussions about teaching and classroom challenges because their focus and energy were on the portfolio and rubrics (Cronenberg, et al, 2016).

Level of implementation can vary between the program and the faculty. For example, a state-wide survey of 145 faculty across the state of Georgia found the mean of the faculty level of implementation was significantly lower than the program's mean regardless of content area, faculty roles, and size of institutions (Bhatnagar, Kim, & Many, 2017). The difference indicates compliance as a program focus. Efforts had been made to integrate edTPA components without the necessary faculty buy-in and understanding that only occurs with time (Bhatnagar, Kim, & Many, 2017).

Faculty and supervisor feedback. Historically, faculty and university supervisors have been the judges of candidates' performances. The subjectivity of these scores is highly debated. Each side argues the personal relationship or history between the candidate and supervisor affects the scores. Those in favor of performance assessment say the candidate is given too much credit because of personal factors or is penalized for past behaviors. Those in favor of local control argue that this relationship is necessary to

fairly judge the candidate because he/she understands the context and content of learning that has occurred in the program in addition to the context of teaching the candidate is delivering in residency (Donovan & Cannon, 2018; Ratner & Kolman, 2016).

For example, supervisors (n = 59) in Sandholtz and Shea's 2014 study under-scored high performers and over-scored low performers on a California performance assessment (PACT). Almost half of the supervisors (43%) accurately predicted total scores; similarly, half of the supervisors also correctly predicted performance on each individual question (Sandholtz & Shea, 2014).

In contrast, Cash, et al (2019) questionnaire (n = 507) found that receiving permissible feedback from university faculty, clinical educators, or peers during the edTPA process was not associated with summative scores. However, candidates perceived supervisors' support and knowledge via feedback to be influential to their edTPA success (Zhang, Nam, & Pelttari, 2016). The mixed methods study utilizing survey responses of 99 candidates and 14 supervisors revealed the supervisors' expertise, whether helpful or not, was perceived as an influence on the result of the edTPA (Zhang, et al, 2016).

Faculty and supervisors are expected to adhere to the edTPA acceptable feedback policy, which is defined as: explaining and guiding discussions about tasks and rubrics; asking probing questions about candidates' draft responses or video-recordings without directly editing or providing answers; and discuss samples of edTPA materials (SCALE, 2016). However, they overstep these boundaries due to poor support from the cooperating teacher, a poor classroom culture, a candidate's lack of writing skills, or lack of time to meet the deadlines (Ratner & Kolman, 2016). Their concern is with the candidates'

success rather than policy. Those who adhere to the guidelines tend to agree on the value of the edTPA assessment and what teacher education should look like while also feeling like they are not in a position to question authority (Ratner & Kolman, 2016; Donovan & Cannon, 2018). Faculty and supervisors know the vision and curriculum of their programs, but some question the allowed support for candidates. The concern is the possibility of candidates reading and following directions to align to 15 rubrics (Appendix B) will develop into the keys to becoming a good teacher (Donovan & Cannon, 2018).

A qualitative study of 33 teacher candidates who completed placements in grades K-8 summarized the faculty-candidate relationship as a monitoring system of formalized rubrics as opposed to a mentoring system of feedback and formative assessment (Jones, Korson, Murray-Everett, Kessler, Harrison, Cronenberg, Parrish, & Parsons, 2021). The same study also found that teacher candidates were concerned with not knowing who would score their portfolio and the bias that may occur. For example, the lesson or segment focus and classroom noise level were specifically mentioned as items that may affect the scorer's judgment due to differing philosophies or approaches. However, if a faculty member/supervisor scored the portfolio then he/she would have the history and context of how the candidate made those decisions as well as how learning was affected by them. Lastly, the Jones, et al study revealed candidates concerns with scores and the scorer's qualifications. Because the scoring report only provides a number and generic description of each rubric level, candidates are not given any specific feedback to help them understand the score relative to their portfolio that could help them grow. The

candidates' concerns were whether the scorer was qualified in the subject area and would score fairly.

In support of the candidates' questioning of scorers, Potter (2021) described issues with Pearson Education, Inc.'s hiring and training process. Subject-specific teaching and mentoring are required, but no minimum number of years for either is specified. Approximately half of the scorers are K-12 teachers, and the other half are teacher educators. Almost 20% of scorers are National Board certified, which is a similar process to the edTPA portfolio. Only a third of portfolios are evaluated by two scorers. Data shows that 56.6% of portfolios were scored the exact same across all rubrics which leaves 43.5% of them to vary from one scorer to another using the same rubrics (Appendix B). Pearson Education, Inc. allows one point per rubric variation between scorers (a possible total of 15 points) to be considered inter-rater agreement (Potter, 2021). The national average score is 45 which makes for a possible variation between 30-60 and considered reliable.

Cooperating teacher. University faculty/staff making practicum placement decisions can be faced with the challenge of a small pool of volunteers due to mentors who do not want extra responsibility, are not modeling effective teaching or university expectations, or lack training and/or professional development (Russell & Devall, 2016). Other selection factors considered include professional dispositions, personalities, and position of power and control, and they often expect candidates to mimic their teaching styles and pedagogical choices. These influences are not accounted for in scoring of the edTPA tasks. The conflict continues as some context is provided about the cooperating teacher's instructional expectations in the *Context for Learning* document, yet teacher-

candidates must adhere to the policy of having "the primary responsibility for teaching" (SCALE, 2019, p.39).

The edTPA handbooks provide directions that assume teacher-candidate autonomy (Hebert, 2018). Cooperating teachers are meant to be mentors who consult, collaborate, and guide teacher-candidates; however, the edTPA limitations are to seek their input as part of the reflection process and review curriculum together. The professional relationship can be further limited when cooperating teachers may not be willing to assist candidates with edTPA based on time limitations, ethical objections to the assessment, and/or a lack of understanding about the assessment (Herbert, 2018).

A small, nonrandom study was conducted on the edTPA experience of world language teacher candidates (n = 22) based on the varied amount and type of guidance provided by their respective cooperating teacher (Behney, 2016). Self-reported edTPA scores were compared with participants' survey and interview data. Cooperating teachers thought they were more supportive with task one (planning) than the candidates perceived them to be. Another noteworthy finding of the same study is the candidates who perceived their cooperating teacher to be helpful with edTPA tasks received the higher scores while those who reported lower support scored lower. Cooperating teachers noted that their lack of familiarity with the performance assessment created confusion about the type of guidance and feedback they could offer; therefore, each gave varying amounts just as perceived by the candidates.

Clayton (2018) found similar results in her mixed methods case study in New York; an average of 74% of candidates over multiple semesters thought their cooperating teachers lacked knowledge about the edTPA. This lack of knowledge requires the

candidate to be a "translator" of the edTPA to their mentor, creating a disadvantage, instead of receiving helpful feedback and guidance. As listed above, candidates' concerns about cooperating teachers' knowledge or lack thereof is substantiated by the acceptable feedback policy expectations. To combat these concerns, candidates who have increased exposure and practicing of the tasks prior to the final practicum may be more confident and less reliant on the cooperating teacher for assistance (Behney, 2016).

One way to combat this lack of knowledge or misunderstanding is to provide professional development for cooperating teachers. A mixed-methods investigation at a large southeastern U.S. university and EPP studied 10 trained cooperating teachers, their assigned teacher candidates, and 60 randomly selected teacher-candidates to complete observations, surveys, interviews, and provide the edTPA results (Kissau, Hart, & Algozzine, 2019). The candidates who had a trained cooperating teacher had higher scores on all 15 rubrics, higher total average scores, met the passing score, and no portfolios were returned due to incomplete status as compared to their peers with untrained cooperating teachers.

Interestingly, Ratner and Kolman (2016) found that even trained cooperating teachers do not necessarily adhere to the acceptable feedback policy. One cooperating teacher stated she simply chose to ignore the guidelines and support the candidate how she chose; another stated she went beyond the policy because her primary responsibility is to ensure candidates are ready to teach rather than pass a test's codes.

Proactive changes. One example of a proactive change was documented in the action research study at Canisius College in Buffalo, New York (Burns, Henry, & Lindauer, 2015). The faculty wanted to put as many supports as possible in place for

student success before the state enacted high-stakes implementation of the edTPA. They utilized school placements, mentor partnerships, practice of tasks in courses, and practical support through seminars and technology. On the first edTPA submission, 84% of candidates (*n* = 58, representing 5 content areas) successfully passed. Although the faculty were proactive and built supports across the curriculum and practicum to assist students, 87% of the candidates agreed or strongly agreed that the edTPA was "overwhelming" yet 98% agreed or strongly agreed that they knew where to go for help and 100% felt supported in their edTPA work by faculty. The portfolio-specific seminars were found to be helpful by 80% of candidates. The most frequent response on the survey regarding what is needed in courses to better prepare for the edTPA was instruction in academic language.

Lachuk and Koellner (2015) document the interventions put in place in an elementary education program in New York, but most importantly, detail the ownership and alignment of the program for improvement rather than "teaching to a test." Additions included workshops, online modules, and drop-in sessions for candidates as they prepared their edTPA portfolios to coach them through the process. Modifications to writing assignments due to the needs of the edTPA commentaries created more evidence-based and rigorous practices. The number of assignments during the practicum were decreased due to time limitations caused by the edTPA process. At the same time, specific attention was given to limiting the pressing presence of passing edTPA in an effort not to create good "tellers" about teaching but good "teachers" of learning. Faculty utilized high-leverage practices to map course assignments that allowed teacher-candidates to enact the practices. These proactive changes reflect using the performance

assessment as an opportunity to engage candidates in reflective practice throughout the program.

One educator preparation program in Georgia was intentional with implementation beginning with a year of professional development and training followed by an evaluation of coursework to ensure support for the new assessment (Paine, Beal-Alvarez, & Scheetz, 2016). Faculty continued to collaborate and add content components to courses with the goal of giving candidates the necessary knowledge and skills to successfully complete the edTPA and become certified to teach. The program also added a two-week bootcamp for portfolio preparation as a response to candidates' feedback. This addition was a reflective change, which is also common and further discussed in the next section.

Reflective changes. Metzler (2014) summarized the need to make major changes in pedagogy courses to better prepare candidates for the edTPA process with the opinion of "the edTPA 'tail' will soon be wagging the PETE program 'dog'" (p. 18). He further states that best practices in K-12 educator preparation programs will be driven by policies, like the edTPA, rather than research on teacher effectiveness. This sentiment is not positive support of aligning programs/courses with the edTPA, yet the changes are still being made.

In 2017, Olson and Rao reported that at least 13 universities in Illinois have created courses specifically for the edTPA. The courses are intended to support candidates in building an understanding of the assessment in an effort to increase success. A School of Education professor in a New York state university performed a mixed methods case study of 82 candidates during the first three semesters of edTPA

implementation (Clayton, 2018). Two notable results were the improved program alignment with the edTPA made candidates feel more prepared and course/practicum feedback was congruent with actual scores candidates received on the edTPA.

Sowder (2017) documents the reflective changes made by a western U.S. university that uses the 18-rubric portfolio. The edTPA scores were used as points of consideration for faculty discussion. The results highlighted needs for revision in course content with the emphasis of change being value to the program rather than pleasing edTPA scores. Five rubrics (Appendix B) in the assessment task were specifically targeted: student use of feedback; analyzing student's language use and literacy learning; analyzing whole class; analyzing individual student work samples; and using evidence to reflect on teaching. Program changes resulted in improvements in all five targeted rubrics in addition to all other portfolio rubrics except one (8. deepening student learning), which did not change. Mean improvements ranged from .01 to .60 across the rubrics; statistical significance of the means was not analyzed.

***Coursework associated with performance on the edTPA*.** The first page of the *edTPA Guidelines for Acceptable Candidate Support* specify that "activities and formative experiences provide opportunities for candidates to practice the activities of the edTPA and that, consistent with research on student learning, programs are encouraged to help candidates examine expectations for performance evaluated by edTPA in meaningful ways and discuss how they will demonstrate their performance in relation to those expectations (SCALE, 2016). Therefore, educator preparation programs can and do make use of course and field work to help candidates practice and prepare for the final

assessment. However, the statistical data available to show clear connections between coursework and the edTPA scores are limited.

Cronenberg, et al (2016) studied implementation and effects at an Illinois program through narrative inquiry. Coursework prior to the use of the edTPA included video analyses and reflection that were beneficial to candidates and faculty. When the same assignments were attached to standardized scoring by outside sources, with high-stakes implications, learning became secondary to matching a rubric score. One participant noted implementation was a game of tug-of-war with students feeling that changes were only for edTPA preparation rather than valuable to teaching (p. 117). A Wisconsin program made similar course changes with teaching experience and reflective assignments that require analysis of student work and teaching videos (Muth, Kremer, Keiper, Schnake, & MacCudden, 2018). However, the products were created prior to the final clinical experience and could be used for practice or the final portfolio later. This option allowed candidates to feel less pressure and more prepared for the official submission; the majority of candidates (70%) favored it. Brown's (2018) qualitative study corroborated candidates'(n = 18) sense of familiarity and support gained from added assignments. All 18 participants agreed they became somewhat or very familiar with the edTPA tasks with the help of the video analysis and reflection assignments. They gained some or maximum support in this preparation process. The issue of writing also surfaced in this study in task three (assessment) which is also the same task the participants identified as the one they needed the most assistance. Teacher-candidates were unsure how to "explain assessment in writing" (p. 63).

Clark, Kara-Soteriou, and Alfano (2017) discovered a specific reading course within an elementary education preparation program to significantly influence ($r = 2.71$, $p < .05$) the outcome of the state licensure exam. Academic data from a two year-period consisting of 278 candidates and their respective reading license exam scores were analyzed for relationships. Admission GPA, SAT score, and reading instruction course grade projected the probabilities of passing the license exam. This statistical significance confirms the validity of the course curriculum, the timing within the program, and the feedback and supports that are offered to students.

A study of a program that fully practices each of the edTPA tasks during specific courses as well as scores them in-house revealed a positive significant association with practice scores and final scores (Cash, et al, 2019). Practice tasks scores of 507 undergraduate and graduate candidates were almost exclusively connected to final task scores (Task 1/Planning: $B = .22$, $t(14814) = 3.40$, $p < .01$; Task 2/Instruction: $B = .14$, $t(11751) = 2.15$, $p < .03$; Task 3/Assessment: $B = .16$, $t(321299) = 2.32$, $p < .02$).

Similarly, an early childhood education program in Ohio investigated correlations between GPA and course work serving as benchmark assessments to the edTPA scores (Evans, Kelly, Baldwin, & Arnold, 2016). The five-lesson-unit with assessments developed in context of students' developmental needs was in alignment with all of edTPA Tasks 1 (planning) and 3 (assessment); a correlation existed with both tasks. The authors credit the correlation to the alignment of expectations between the assignment and the edTPA rubrics (Appendix B). A Family Culture Project was also utilized, reflecting the edTPA Context for Learning and task one (planning) and appearing to be aligned; however, no correlation was found.

Davis and Walsh (2019) credited one southeastern U.S. university's physical education candidates' (*n*=34) satisfactory scores on all of the edTPA tasks to several assignments added to courses over a three-year pilot period to prepare for full implementation of the edTPA. Candidates practiced planning, video self-reflection, identifying context, making a class management plan, using a demonstration checklist, and creating a research annotated bibliography. Program goals were for students to score a total of 42 or higher with each rubric averaging 2.8. Task averages were 3.12, 3.08, and 2.96, respectively. Disaggregated data revealed more emphasis should be placed on Task 3 (assessment) to specifically address rubrics 10 (analyzing teaching effectiveness) and 15 (using assessment to inform instruction) (Appendix B) in addition to the three added assignments for sports skills testing, using data to inform instruction, and pre/post-test project.

Becoming a Teacher in Tennessee

The Tennessee Department of Education has clear and specific guidelines for educator preparation providers (EPP). All EPPs must receive approval of the state board of education (SBE). Approval is obtained by "ensuring candidates have the opportunity to attain knowledge and skills specified by the SBE, have clinical experiences in accordance with guidelines established by the SBE, and meet all other standards, procedures, and guidelines established by the SBE" (https://www.tn.gov/education/licensing/educator-preparation/educator-preparation-provider-approval.html, 5/23/2020). All EPPs must meet the CAEP standards or engage in a state review process demonstrating the capacity to provide programs that lead to licensure. As of May 2020, Tennessee had 39 educator preparation programs.

The TN State Board of Education requires teacher-candidates for baccalaureate level EPPs to have a minimum GPA and exam scores: GPA of 2.75, ACT score of 21, SAT score of 1080, Praxis Core Reading score of 156, Praxis Core Writing score of 162, and Praxis Core Math score of 150. The EPP must offer grade and content appropriate clinical experience of student-teaching for 15 weeks with a clinical mentor (cooperating teacher) and clinical supervisor (university supervisor). Formal observations and feedback opportunities for the candidates must be provided by the cooperating teacher/mentor and clinical/university supervisor (Tennessee Educator Preparation Policy 5.504, 7/26/2019). In addition, Tennessee Code Annotated §49-5-5610 requires that any student wishing to enter an approved teacher education program must undergo a criminal history check and fingerprinting by the Tennessee Bureau of Investigation.

In 2012 Tennessee began allowing the use of the edTPA in lieu of Praxis II: Principles of Learning and Teaching test. In January 2019, the edTPA became the state's only assessment option for pedagogy competency to acquire licensure. As of May 2020, 41 institutions in the state were using the assessment. A total score of 42 or higher will be required beginning January 2021, making it the highest qualifying score in the United States for the 15-rubric edTPA. The edTPA was chosen for licensure partially because of its alignment with the state's teacher evaluation rubric, Tennessee Educator Acceleration Model (Teacher and Administrator Evaluation Policy 5.201). The rubric is a state-specific version of the National Institute of Excellence in Teaching's evaluation model. TEAM is the primary evaluation rubric for Tennessee public school teachers; however, other models are used in specific districts with permission from the state Department of Education.

An undergraduate teacher-candidate attending the university selected for this research would have to meet the following criteria and requirements to become a licensed teacher:

1. Complete at least 45 semester hours of coursework to gain eligibility to apply to Teacher Education.
2. Complete an online application for admission to Teacher Education before the end of the sophomore year.
3. Take and pass the Praxis Core Academic Skills for Educators (Core) exams. Passing scores are Reading– 156, Math – 150, Writing – 162. Exemptions from taking the CORE exam may apply to those applicants who have an ACT enhanced score of 22 or higher or a 1080 on the SAT.
4. Have an inclusive grade point average of 2.75 or higher (grades earned in basic and developmental courses are not used in the computation of the required average).
5. Undergo three favorable faculty interviews: one with a faculty member in professional education at the university, one with a faculty member teaching courses in the major or in general education at the university and one with a classroom teacher/practitioner (PreK-12) in a public school.
6. Complete fingerprinting and background check with the Tennessee Bureau of Investigation.
7. Receive disciplinary clearance from the College of Education.
8. Pass all coursework with minimum grades as determined by program area.
9. Meet degree requirements for courses, GPA, and total hours.

10. Successfully complete Residency I and practicum (with grades of B or better).
11. Successfully complete Residency II/student-teaching with satisfactory number of teaching days in K-12 schools, TEAM observations, and disposition scores.
12. Obtain an edTPA score of 40 (state minimum)/42 (university minimum) or better for 15-rubric handbooks (as of January 1, 2020).
13. Successfully meet required score for respective Praxis II content area test. (Physical Education Content Design #5095 passing score for Tennessee is 169.)
14. Complete the form for state license through university office.

The physical education teacher education program being examined in this study offers a unique experience compared to programs at other universities in the state (Table 2; Appendices B and C). The major content is solely physical education rather than combined with health, coaching/athletics, or exercise science. Secondary education is the required minor of 27 total hours with 15 hours taught by College of Education faculty. Physical education content classes comprise 52 hours of the total 120 required hours for degree completion. Unique to the content classes are adapted physical education, assessment in physical education, and pedagogy of physical education with practicum during the junior year. Elementary and secondary teaching methods and practicum begin the senior year followed by Residency II/student-teaching as the capstone experience (12 hours of secondary education minor).

The adapted physical education course provides an overview of special education laws and services while specifically addressing how to make learning in physical education inclusive for students of varying abilities, backgrounds, and identities.

Candidates gain key content knowledge for skill development, teaching strategies, and planning in six courses: skill themes, fitness for grades K-12, concepts and tactics, net/wall games, territory games, and educational rhythms. The assessment and curriculum courses align with the pedagogy course and practicum to develop, deliver, and evaluate standards-based assessments in all three learning domains.

Table 2.
Physical Education Academic Map

2020-2021 Physical Education Academic Map	
(*general education and minor requirements are not included in this table)	Freshman Spring PHED 2800 Introduction to Physical Education
Sophomore Fall Semester PHED 3930 Concepts & Tactics of Teaching Games PHED 3720 Fitness Education for K-12	Sophomore Spring Semester PHED 4910 Applied Kinesiology & Biomechanics PHED 4930 Teaching Territory Games PHED 3430 Elementary Skill Themes
Junior Fall Semester PHED 3900 Adapted Physical Education PHED 4400 Motor Behavior PHED 4940 Teaching Net & Wall Games PHED 4470 Educational Rhythms & Dance	Junior Spring Semester PHED 4000/01 Physical Education Pedagogy & Practicum PHED 4710 Authentic Assessment in Teaching Physical Education PHED 4780 Curriculum in Physical Education
Senior Fall Semester PHED 4800 Elementary Physical Education Teaching Methods PHED 4801 Elementary Physical Education Teaching Practicum PHED 4900 Secondary Physical Education Teaching Methods PHED 4901 Secondary Physical Education Teaching Practicum	Senior Spring Semester Residency II/student-teaching PHED 4990 Seminar in Physical Education

The practicums at the junior and senior levels are most unique in that the candidates gain valuable teaching experience. The pedagogy course and practicum require planning,

teaching, and self-reflection of four lessons to freshmen students in the introduction to physical education course. Elementary and secondary teaching methods and practicum provide the platform to plan, teach, assess, and reflect on 6-10 lessons taught to first through fifth grade students during a five-week period followed by the same experience with sixth through eighth graders for a total of 12-20 lessons. In addition to teaching on their own, all three practicum experiences include the co-teaching model to prepare candidates for using their pedagogical and content skills in collaboration with a colleague when sharing a gym and/or classes. All practicum lessons are supervised by university faculty. Elementary and secondary practicum also utilize videorecording of lessons for candidates to view for reflection.

Summary

Over three decades of examination and actions on educational reform and policy relative to accountability and performance have brought changes to both K-12 and higher education, specifically educator preparation programs for teacher licensure. The most current and powerful, yet highly debated, element is the edTPA. This performance assessment requires actual teaching behaviors to be demonstrated. Proponents argue this fact along makes it more appropriate and valuable than knowledge tests alone. Others counterargue that the process of the edTPA is standardized and does not allow for the multitude of contexts each performance assessment occurs. If the edTPA does predict which candidates will be effective, then EPPs need to carefully consider how they integrate its process and products measured in their respective programs. Furthermore, if academic experiences and characteristics, such as GPA or ACT score, predict success on the edTPA, then EPPs need to examine and accordingly adjust their program benchmarks

in order to recruit and select teacher-candidates who can be successful. Research has provided traits and behaviors indicative of academic, teaching, and edTPA success; however, little data exists specific to physical education. This field lacks similar information available to content areas have from research results, national data, and program-specific results. This deficiency prevents faculty from making informed decisions that specifically modify coursework while improving teacher-candidates' success relative to edTPA.

The physical education teacher education program in this study had the pilot edTPA portfolios scored by faculty in the College of Education, not by the program faculty for 2013. Scoring was then contracted from the university to Pearson Education, Inc. in 2014. A non-subject-specific seminar is led by College of Education faculty during the creation of the portfolio, and all artifacts are stored on an online platform for later transfer to Pearson Education, Inc. These factors minimize the amount of feedback PETE faculty have during the completion of the portfolio in addition to preventing scores skewed by relationships between faculty and teacher-candidates. This program has made some reflective changes over the past five years to better prepare teacher-candidates for the edTPA process. Those changes predominantly consist of coursework, assignments, and adding portfolio terminology to coursework (such as academic language and learning segment).

For this study, the following questions were examined:

1. Which academic factors at program admission are predictors of a successful edTPA score for PETE candidates?

Null hypothesis: Academic factors at program admission do not predict successful edTPA scores for PETE candidates.

Alternative hypothesis: Academic factors at program admission predict successful edTPA scores

for PETE candidates.

a. Does GPA at admittance to an educator preparation program predict a successful edTPA score?

b. Does the ACT score predict a successful edTPA score?

c. Do Praxis Core scores (reading, writing, math) predict a successful edTPA score?

2. Which senior-level academic factors are associated with a successful edTPA score for PETE candidates?

Null hypothesis: Senior-level academic factors are not associated with a successful edTPA score for PETE teacher candidates.

Alterative hypothesis: Senior-level academic factors are associated with a successful edTPA score for PETE teacher candidates.

Null hypothesis: Senior-level academic factors are not associated with edTPA task scores.

Alternative hypothesis: Senior-level academic factors are associated with edTPA task scores.

a. Is the Praxis II/content knowledge score associated with a successful edTPA score?

b. Are final grades in comparable methods coursework associated with a

successful edTPA score?

c. Are final grades in comparable methods coursework associated with the edTPA task scores?

CHAPTER III: METHODS

The following sections provide the justification and steps of analysis. The rational of the study, theoretical framework, and conceptual framework provide the lens of the research questions. The design, data collection, methods of analysis, limitations, and delimitations outline the methodological process.

Rationale of Study and Research Approach

Although 41 states and the District of Columbia have implemented the edTPA, much of the research for predicting success on the edTPA has been conducted in only four states (Georgia, Illinois, New York, Wisconsin). The limited number of states binds the results to those contextual settings. Qualitative approaches are common in the current research, which attempt to better understand the experiences prior to and during the edTPA process for the personnel of educator preparation programs (EPP) and teacher-candidates. Quantitative data has shown that GPA, ethnicity, and Praxis scores are reflective of the edTPA performance. This research extended this line of inquiry specifically within physical education. This data will help programs understand which benchmarks and practices yield better results for candidates in addition to examining differences between coursework and the overall edTPA and individual rubric scores.

Theoretical Framework

Systems Inquiry was selected as the theoretical framework to capture the complexity of the interdependence and interactions of government, educational institutions and respective teacher preparation programs, teaching, and assessment to create functional context. Systems inquiry is comprised of four domains, two modes of disciplined inquiry, and three models as applied in educational systems (Banathy &

Jenlink, 2003). These components reflect the context, content, and process of education as a social system.

Systems inquiry utilizes four domains that have relational effect on one another; the domains are philosophy, theory, methodology, and application. The philosophy studies the process of change to produce knowledge and understanding about how systems change within the educational system. Theory examines the system change as a human activity system, pursuing plausible principles that explain the systemic change. The methodology of systems inquiry creates the identification and description of tools, methods, models, and application strategies. The application occurs in the functional context of the educational system, where the theory, philosophy, and methodology interact and translate into human activity (Banathy & Jenlink, 2003).

The two modes of system inquiry reflect education reform and the purpose of pursuing this research: to draw conclusions based on processes and products to create products and processes that improve the education system. The first mode is conclusion-oriented inquiry, which examines the disciplines of teaching to produce and verify knowledge of the system. The second mode is decision-oriented inquiry, which examines the professions within the system to better processes, products, and the overall system. The knowledge gained from conclusion-oriented inquiry is applied in decision-oriented inquiry. At the same time, conclusion-oriented inquiry uses decision-oriented inquiry products and processes as its knowledge source (Banathy & Jenlink, 2003). For this study, educational reform policies, presage variables of teacher-candidates, and product variables of teacher-candidates are examined for the conclusion-oriented inquiry. The analysis will hopefully lead to recommendations for use of those variables to create

processes and products that improve the educator preparation programs and licensure obtainment.

Banathy (1995) constructed three models that depict education as a system: systems-environment relationships, the functions/structure of social systems, and the processes/behavior of systems through time. These models provide the filters to understand, describe, and analyze the educational systems for the dynamic and multifaceted social systems they are. Most importantly, Banathy and Jenlink note that all three models must be mutually considered to comprehensively illustrate education as a social system. One model on its own cannot provide an accurate depiction of an educational system.

The systems-environment relationship allows the educational system to be viewed within the context of its community and society at-large. Higher education institutions, more specifically educator preparation programs, have an accountability to society to produce highly effective teachers for the benefit of all. These programs must answer to departments of education, legislatures, and taxpayers at both the state and federal levels. This system represents a mutual interdependency between society and education as well as education and government that has financial, policy, and product implications. An assessment of the responsiveness and adequacy of the responsiveness of the system can be determined from this multilevel relationship (Banathy & Jenlink, 2003).

The functions/structure of social systems is represented by what the system, in this case the educational system, is at a specific moment in time. The adequacy of the function/structure can be viewed by identifying the current goal, steps to attain the goals, and the relational arrangement of the functional components to meet the goal (Banathy &

Jenlink, 2003). For the purposes of this study, the system's goal is to create highly effective teachers who demonstrate their knowledge through high academic performance (GPA, ACT, Praxis, and course grades) and skills (the edTPA process) to become licensed professionals.

The process/behavior of systems provides a picture of what the system does through time as a living social system. The key focus is to evaluate the process of the system. The process includes screening and assessing input, converting input for the use of the system, operations to produce the expected outcome, and making necessary adjustments (Banathy & Jenlink, 2003). This study has a few examples of process/behavior: ongoing changes of accountability in education including teacher education, leading to more assessments and data; government and universities use the process of education and assessments to obtain the products of a degree and teaching license; and government and universities use results of assessments to assess and revise requirements and qualifications for educator preparation programs and future educators.

Conceptual Framework

The use of academic criteria and exam scores are standard practice in education preparation programs as means to either enter the program or graduate. These data points are typically from GPA, ACT, Praxis Core, Praxis II, course grades, and a summative evaluation or portfolio. The Praxis II score and summative evaluation or portfolio are also commonly used as requirements to obtain state licensure for teaching.

In light of this study's state policy, the Tennessee State Board of Education has set forth the following requirements for students to be admitted to an educator preparation program:

- pass a criminal history and fingerprinting check,
- have a GPA of 2.75 or higher, and
- have an ACT score of 22 or SAT score of 1080; or
- Praxis Core if ACT/SAT is not met
    - Reading score of 156 of possible 200
    - Writing score of 162 of possible 200
    - Math score of 150 of possible 200.

To successfully complete the program and obtain licensure, the teacher-candidate must complete coursework as well as a grade-level and content appropriate clinical experience of student-teaching for 15 weeks. Formal observations and feedback opportunities for the candidates must be provided by the cooperating teacher/mentor and clinical/university supervisor (Tennessee Code Annotated §49-5-5610; Tennessee Educator Preparation Policy 5.504, 7/26/2019). In addition, teacher-candidates create an edTPA portfolio during student-teaching to be scored by Pearson Education, Inc. A minimum passing score of 40 is required by the state of Tennessee. The university has the discretion to require higher scores for any of the measurements. This university requires an ACT minimum score of 22 for admission in addition to an edTPA score of 42 or higher for program completion.

The 2013 pilot edTPA portfolios of physical education teacher education candidates at this study's EPP were scored by faculty in the College of Education, not by the PETE faculty. The university contracted Pearson Education, Inc. in 2014 for scoring of all portfolios. A non-subject-specific, weekly seminar is led by College of Education faculty during the creation of the portfolio, and all artifacts are stored on an online platform for

later transfer to Pearson Education, Inc. These factors minimize the amount of feedback PETE faculty have during the completion of the portfolio in addition to preventing scores skewed by relationships between faculty and teacher-candidates. This program has made some reflective changes over the past five years to better prepare teacher-candidates for the edTPA process. Knowledge of candidate performance, though limited, did lead to curricular changes to better prepare test-takers for the edTPA. Such changes consisted of coursework, assignments, and adding portfolio terminology to coursework (such as academic language and learning segment).

Upon completion of physical education content classes (Skill Themes, Fitness Education for Grades K-12, Adapted Physical Education, Concepts and Tactics, Net/Wall Games, Territory Games, Educational Rhythms), candidates in the spring semester of their junior year develop pedagogical knowledge and skills through progressive planning and teaching experiences. Sophomore students in an introduction to physical education course serve as their students. Course faculty assist candidates with the planning process by providing feedback and quality resources. Lesson plans include national standards and objectives in the psychomotor domain and at least one other in the cognitive and/or affective domains, references/resources, critical elements and cues of the skill(s), equipment, content development, informal and formal assessment, and organization and management of tasks. Additional feedback is provided in writing after the plan has been submitted so that candidates can make final revisions and prepare to teach. The teaching of the lesson is observed by the course faculty who provide verbal feedback immediately following the lesson in addition to written feedback after the candidate submits a reflection assignment. Lesson plans progress from 20-minute to 40-minute classes.

Candidates conduct one formal assessment in each lesson, addressing all three learning domains throughout the semester. Candidates take the assessment course alongside the pedagogy course; therefore, they are able to practice creating, administering, and evaluating assessments. The expectations for candidates' planning, instruction, assessing, and reflecting progress across the semester.

The following semester (fall of senior year) elementary and secondary methods and practicum are completed. These courses further extend the pedagogy coursework of planning, teaching, assessing, and reflecting. For the methods portion, candidates create developmentally appropriate lesson plans aligning with state and national standards in addition to use of strategies for classroom management and assessment. The practicum coursework consists of teaching the lesson plans to elementary and middle school students in local public schools and under the supervision of PETE faculty. Candidates teach an average of 10 classes in each practicum. Group/class sizes per candidate ranges from 10-16 students, and classes average 45 minutes in length. Peers critique each other using systematic observations of pedagogical skills for each lesson. Each teaching event is video recorded for candidates to view and use with assessment data as the evidence for written reflections that analyze instructional behaviors and the students' learning. To prepare candidates to submit their edTPA portfolios the next semester, some edTPA prompts are modified to allow writing practice of commentaries for Tasks 2 and 3 (instruction and assessment). Candidates are simultaneously enrolled in Residency I (in the College of Education for the secondary education minor) where they also use the practicum experience to practice writing the edTPA context for learning and task one (planning) commentary.

Research Questions

1. Which academic factors at program admission are predictors of a successful edTPA score for PETE candidates?

   Null hypothesis: Academic factors at program admission do not predict successful edTPA scores for PETE candidates.

   Alternative hypothesis: Academic factors at program admission predict successful edTPA scores for PETE candidates.

   a. Does GPA at admittance to an educator preparation program predict a successful edTPA score?

   b. Does the ACT score predict a successful edTPA score?

   c. Do Praxis Core scores (reading, writing, math) predict a successful edTPA score?

2. Which senior-level academic factors are associated with a successful edTPA score for PETE candidates?

   Null hypothesis: Senior-level academic factors are not associated with a successful edTPA score for PETE teacher candidates.

   Alterative hypothesis: Senior-level academic factors are associated with a successful edTPA score for PETE teacher candidates.

   Null hypothesis: Senior-level academic factors are not associated with edTPA task scores.

   Alternative hypothesis: Senior-level academic factors are associated with edTPA task scores.

a. Is the Praxis II/content knowledge score associated with a successful edTPA score?
b. Are final grades in comparable methods coursework associated with a successful edTPA score?
c. Are final grades in comparable methods coursework associated with the edTPA task scores?

Research Design and Sample

A causal comparative design was utilized to examine whether relationships existed between the edTPA scores and standardized tests and coursework that are used as program benchmarks. All data were quantitative. The analysis tested variable categories to identify possible indicators of success on the edTPA. The variables were not manipulated, and the events were retrospective. The predictor variables were standardized test scores and benchmarks from GPA, ACT, Praxis Core exams, Praxis II exam, and final grades in methods courses. The complete set of data was available in the university's learning management system as of 2015. The outcome variable was the individual task scores or overall scores of the edTPA. The university and state have differing minimum pass scores; therefore, both scores were analyzed with the data set.

The sample (n = 39) consisted of scores from physical education teacher education candidates' graduating between December 2015 – May 2021 at a large university in Tennessee. All candidates were in the teacher education program, thus having passed the standardized benchmarks and taken respective coursework. The sample consisted of 24 males and 15 females. Only two racial identities were represented in the sample: Black/African American (n = 3) and White/Caucasian (n = 36). The age range of

the participants was 22 to 46 years old. The large range was due to non-traditional students aged 30 or above who represented six of the participants.

Data Collection Methods and Procedures

Approval from the Institutional Review Board (IRB) (Appendix A) was obtained for collecting data. Data was retrieved from university records for each teacher-candidate. GPA, ACT, Praxis Core, Praxis II scores, and edTPA scores were sourced from the teacher-candidate profile stored in the university's online Licensure Assessment Dashboard. Course grades were sourced from online grade books of respective courses stored in the university's learning management system.

All data was entered into SPSS to create analytical output. Participants' identities were not used; each was assigned a unique number code. All but one of the predictor variables are dichotomous; the remaining predictor variable (coursework) has three categories. The outcome variable (edTPA score or edTPA task scores) is also dichotomous.

Analytical Methods

Descriptive statistics were analyzed to summarize the set of participants from which the data is derived. Binary logistic regression was used to analyze the quantitative data of dichotomous predictor variables and one dichotomous outcome variable to determine possible predictors of a successful edTPA score from program entrance data. Chi-square tests of independence were used to analyze the quantitative data of categorical predictor variables and two dichotomous outcome variables to determine possible predictors of a successful edTPA score from senior-level academic data (Table 3).

Frequency analysis determined the data points to establish numerical value of the predictor variables.

Table 3.
Analysis for Research Questions

Research Questions & Hypotheses	Analysis
1.Which academic factors at program admission are predictors of a successful edTPA score for PETE candidates? *Null hypothesis: Academic factors at program admission do not predict successful edTPA scores for PETE candidates.* *Alternative hypothesis: Academic factors at program admission predict successful edTPA scores for PETE candidates.*	
a. Does GPA at admittance to an educator preparation program predict a successful edTPA score?	Binary logistic regression
b. Does the ACT score predict a successful edTPA score?	Binary logistic regression
c. Do Praxis Core scores (reading, writing, math) predict the edTPA score?	Binary logistic regression
2. Which senior-level academic factors are associated with a successful edTPA score for PETE candidates? *Null hypothesis: Senior-level academic factors are not associated with a successful edTPA score for PETE teacher candidates.* *Alterative hypothesis: Senior-level academic factors are associated with a successful edTPA score for PETE teacher candidates.* *Null hypothesis: Senior-level academic factors are not associated with edTPA task scores.* *Alternative hypothesis: Senior-level academic factors are associated with edTPA task scores.*	
a. Is the Praxis II/content knowledge score associated with a successful edTPA score?	Chi square test of independence
b. Are final grades in comparable methods coursework associated with a successful edTPA score?	Chi square test of independence
c. Are final grades in comparable methods coursework associated with the edTPA task scores?	Chi square test of independence

The assumption of independence was utilized for the predictor variables (GPA, ACT, Praxis Core, Praxis II scores, and final grades in methods courses). The assumption of independence states membership in one category is not associated to membership of another category. These predictor variables were analyzed as individual benchmarks rather than a collective score, making the assumption of independence appropriate (Starkweather & Moske, 2011). The analysis determined whether differences in the outcome variable of edTPA scores can be explained by correlations with one or more predictor variables of GPA, ACT scores, Praxis Core , Praxis II scores, and/or final grades in methods courses.

Methodological Delimitations of Study

A study of one PETE program was chosen to evaluate relationships between benchmark testing scores and criteria to enter and exit the program between the 2015-2021 academic years. The rationale of this study was to provide points of discussion for program evaluation, revisions, and requirements as well as perspective for the continued implementation of the edTPA. The sample used in this quantitative study was physical education teacher education candidates' scores from benchmark data that reflect the requirements to enter and complete the education preparation program. Predictor variables are GPA at program admission, Praxis Core exam content scores of reading, writing, and math, total scores of the Praxis II content knowledge exam, and final grades in methods courses. These variables reflect skills necessary to successfully complete the edTPA: writing, content knowledge, pedagogical knowledge, and reflection. The outcome variables are the overall scores of the edTPA portfolio or the scores of the three

edTPA tasks. The edTPA was selected as the outcome variable because it was most significant to implications for teacher licensure.

Methodological Limitations of Study

This study was limited to a non-random sample: one physical education teacher education program in a large university in Tennessee. Results cannot be generalized to all PETE programs or universities. Data for the analyses represent the academic years 2015-2021 to adhere to the timeline of the implementation of the edTPA with Pearson Education, Inc. scoring at this specific university. Results may indicate a relationship rather than a causality and therefore cannot be inferred as such.

CHAPTER IV: RESULTS

The results of this study are presented in order of frequency analysis for all variables followed by descriptive and inferential statistics relative to each variable. Results are provided for each research question and the respective variables.

Binary logistic regression was conducted to determine the relationship between academic factors at admission into an educator preparation program (EPP) and a successful edTPA score. The predictor variables were ACT score, GPA, and Praxis Core scores (reading, writing, and math). The outcome variable was the total edTPA score. Total edTPA scores were analyzed twice due to the state and university having differing pass scores. Chi square tests of independence were conducted to determine the relationship between academic factors at the senior-level of the program and a successful edTPA score as well as individual edTPA task scores. An alpha of .05 was set for all analyses.

The number of data points for each variable is not the same. The outcome variables (edTPA total score and edTPA individual task scores) utilize all 39 portfolios of graduates in the selected time period. The Praxis II score, GPA, and course grades represent all 39 graduates also. However, the number of ACT scores and Praxis Core scores were not available for all 39 graduates. ACT scores were lacking 3 of the 39 due to those graduates having transferred to this university EPP from another institution or were enrolled in the military prior to enrolling in this EPP. Praxis Core scores were not available for all graduates because some were exempt from these exams with an ACT score of 22 or higher. Other missing Praxis Core scores were unexplained in the online management system.

Methods and practicum courses at this university require a grade of A or B to continue into Residency II/student-teaching. However, teacher candidates who make a grade of C can retake the course(s) the following semester with assignments specific to their needs. Only 1 of the 39 graduates remediated two courses (elementary methods and practicum); two other graduates remediated one course each (elementary methods or elementary practicum). These instances are labeled as "B remediate" in the statistical tables.

Frequency Analysis

Frequency analysis determined the dichotomous categories of each predictor variable as well as the individual task scores of the edTPA as an outcome variable. The categories of the total edTPA score outcome variable were set at pass or fail due to the nature of licensure requirements. Binary categories were selected based on the frequencies to represent key data points that represented high percentages. Frequency analysis results and categories for all variables are displayed in Table 4.

Table 4.
Frequency Distribution and Categories of Predictor and Outcome Variables

Outcome Variable	*N*	Category	*n*	*%*
edTPA Total State	39			
		pass	33	85
		fail	6	15
edTPA Total Univ.	39			
		pass	27	69
		fail	12	31
edTPA Task 1	39			
		14-18	28	72
		10-13	11	28

Table 4 continued

Outcome Variable	*N*	Category	*n*	*%*
edTPA Task 2	39			
		15-18	23	52
		9-14	16	48
edTPA Task 3	39			
		13-19	24	62
		8-12	15	38
Predictor Variable	***N***	**Category**	***n***	***%***
ACT	39			
		23-32	10	25
		15-22	29	75
GPA	39			
		≥3.26	17	44
		≤3.25	22	56
Praxis Core Read	24			
		≥170	16	67
		≤166	8	33
Praxis Core Math	26			
		≥154	16	61
		≤152	10	39
Praxis Core Write	23			
		≥166	14	61
		≤164	9	39
Praxis II	39			
		≥176	17	44
		≤175	22	56
Elem Methods	39			
		A	23	59.0
		B	13	33.0
		B remediate	3	8.0
Elem Practicum	39			
		A	14	35.9
		B	24	61.5
		B remediate	1	2.6

Table 4 continued.

Predictor Variable	*N*	Category	*n*	*%*
Secondary Methods	39			
		A	15	38.5
		B	24	61.5
		B remediate	0	0
Secondary Practicum	39			
		A	23	59.0
		B	16	41.0
		B remediate	0	0
Combined Courses	39			
		All A	8	20.5
		Mix A & B	24	61.5
		All B or any B remediate	7	18.0

Outcome Variables

Two outcome variables were examined in this study, edTPA total score and edTPA task scores (planning, instruction, assessment). The average total score on the edTPA portfolio for this study was 42.3 (see Table 5). This average was lower than the average for all subject area edTPA scores within the EPP (45), the state (46.6), and the nation (44.3) (Tennessee State Board of Education, 2020). The average portfolio score of 45 for this EPP across all subject areas from 2017-2020 was higher than the state minimum, state average, and the national average (CAEP Self-Report, 2020). Average edTPA individual task scores across all subject areas within this EPP for the same time period was 3.1 with the exception of Task 2 rubric 10/analyzing teaching effectiveness which was 2.8 (CAEP Self-Report). Tennessee and national average scores for edTPA individual tasks could not be found in online references or searches.

Academic Factors at Program Admission as Predictors

The results from the binary logistic regression analysis of academic factors at admission into the educator preparation program as predictors of a successful edTPA score are presented in Table 6. The predictor variables examined were ACT score, GPA, and Praxis Core exam scores.

Table 5.
Descriptive Statistics for Predictor and Outcome Variables

Outcome Variable	*n*	*M*	*SD*
edTPA Total	39	42.3	4.7
edTPA Task 1	39	14.1	1.7
edTPA Task 2	39	14.6	2.0
edTPA Task 3	39	13.5	2.2
Predictor Variable	***n***	***M***	***SD***
ACT	36	21.2	3.5
GPA	39	3.3	0.3
Praxis Core Read	24	174.5	11.9
Praxis Core Math	26	160.3	12.5
Praxis Core Write	23	165.9	3.9
Praxis II	39	173.7	5.4

ACT Scores

The ACT average score in this study was 21.2, which is less than the admission benchmark of 22 (Table 5). It is also lower than this EPP's average ACT score of 25 for academic years 2017-2020. The analyses did not find ACT to be a statistically significant predictor of passing the edTPA at the university or state cutoff score (p = .22, Nagelkerke R^2 =.06; p = .20, Nagelkerke R^2 = .08).

GPA

The average GPA at program admission was 3.30 (Table 5). This average is less than the EPP's GPA average of 3.38 for academic years 2017-2020. The analyses did not

find GPA to be a statistically significant predictor of passing the edTPA at the university or state cutoff score (p = .71, Nagelkerke R^2 < .01; p = .84, Nagelkerke R^2 < .01).

Praxis Core Exam Scores

Praxis Core exam scores for this study were also lower than the averages of the EPP (Table 5). Reading was 174.5 compared to 177, math was 160.3 compared to 162, and writing was 165.9 compared to 168.7 (CAEP Self-Report, 2020). The PETE candidates average score in this study exceeded the 2016-2019 national averages of reading (169.4), math (147), and writing (160) (Educational Testing Services, 2019).

Table 6.
Binary Logistic Regression for Program Admission Academic Factors as Predictors of Successful edTPA Score

		University		State	
Variable	*n*	*p*	*Nagelkerke R^2*	*p*	*Nagelkerke R^2*
ACT	36	0.40	0.03	0.59	0.01
GPA	39	0.39	0.03	0.73	<.01
Praxis Core	23	0.02*	0.52	<.01*	0.71
Praxis Read	24	0.73	<.01	0.09	0.19
Praxis Math	26	0.65	0.01	0.28	0.07
Praxis Write	23	<.01*	0.45	0.03*	0.30

*p < .05

Praxis Core test scores when analyzed together (reading, math, and writing) were statistically significant for the university's cutoff score (p = .02) and the state's cutoff score (p < .01). The effect sizes represented by Nagelkerke R^2 of .52 for the university cutoff score and .71 for the state cutoff score were much larger than typical R^2 based on education research standards of effect size. The Praxis Core tests were analyzed individually which found the writing portion to be the only statistically significant

predictor of the three subtests for both the university and state cutoff scores ($p < .01$, Nagelkerke $R^2 = .45$; $p = .03$, Nagelkerke $R^2 = .30$). The effect sizes were considered larger than typical based on educational research effects. The null hypothesis that academic factors at program admission do not predict successful edTPA scores for PETE candidates was rejected.

Senior-Level Academic Factors as Predictors

Descriptive statistics for the predictor variable of Praxis II is included in Tables 4 and 5; descriptive statistics for the predictor variables of course grades are presented in Table 4.

The results from the chi square tests of independence of senior-level academic factors as predictors of a successful edTPA score at different cutoff scores from the university and state are presented in Table 7. Predictor variables examined were the Praxis II exam scores and four senior-level courses individually and combined (elementary methods, elementary practicum, secondary methods, and secondary practicum).

The results from the chi square tests of independence of senior-level academic factors as predictors of individual edTPA task scores are presented in Table 8. Predictor variables examined were the Praxis II exam scores and four senior-level courses individually and combined (elementary methods, elementary practicum, secondary methods, and secondary practicum).

Relationships to the edTPA Total Score

The Praxis II exam average score from this study was 173.7, which is higher than the national median of 170 and within the national performance range of 162-175 (Table

5) (Educational Testing Services, 2020). The analyses determined Praxis II exam scores were not statistically significant predictors of a successful edTPA score at the university or state level (χ^2 =.64, *df* = 1, N = 39, *p* = *.42;* χ^2 < .01, *df* = 1, N = 39, *p* = *.95)*.

The analyses determined no individual course grade was statistically significant predictors of a successful edTPA score at the university or state level. Chi square scores ranged from less than .01 to 2.37 with *p* values of .31 to .96 for the university cutoff score and .24 to 1.85 with *p* values of .23 to .86 (Table 7). The combination of all four courses was not a statistically significant predictor either for the university or state cutoff scores (χ^2 = .22, *df* = 2, N = 39, *p* = *.90;* χ^2 =.09, *df* = 2, N = 39, *p* = *.96)*. The null hypothesis that senior-level academic factors are not associated with a successful edTPA score for PETE teacher candidates was accepted.

Table 7.
Chi Square Tests for Senior-Level Academic Factors as Predictors of Successful edTPA Score

		University		State	
Variable	*n*	χ^2	*p*	χ^2	*p*
Praxis II	39	.74	.39	.12	.73
Elementary Methods	39	.54	.76	1.85	.40
Elementary Practicum	39	2.37	.31	.30	.86
Secondary Methods	39	.19	.66	1.42	.23
Secondary Practicum	39	<.01	.96	.24	.63
Combined Courses	39	.22	.90	.09	.96

*$p < .05$

Relationships to the edTPA Task Scores

Of the final grades for the combined four methods and practicum courses, 20% made a grade of A, 62% made a mixture of grades A and B, and 18% made a B with remediation in at least one course or made all grades of B. The combination of all four

senior-level courses in addition to each course were separately analyzed with the individual edTPA task scores. No relationship was found between the combination of all four courses and any of the edTPA individual task scores. The chi square values ranged from 0.05 to 1.65 with *p* values from .44 to .97 (Table 8). The analyses determined only one of the courses, Secondary Methods, had a statistically significant association to one edTPA task score, Task 3/assessment (χ^2 =6.50, *df* = 2, N = 39, *p = .01)*. All statistically insignificant results for the individual courses in relation to the tasks are listed in Table 8. The null hypothesis that senior-level academic factors are not associated with edTPA task scores for PETE teacher candidates was rejected due to the secondary methods and Task 3 relationship.

Table 8.
Chi Square Tests for Senior-Level Course Grades as Predictors of edTPA Task Scores

		Task 1		Task 2		Task 3	
Variable	*n*	χ^2	*p*	χ^2	*p*	χ^2	*p*
Elementary Methods	39	1.70	.43	.25	.88	2.19	.34
Elementary Practicum	39	.49	.78	3.44	.18	2.73	.26
Secondary Methods	39	.19	.66	.60	.44	6.50	.01*
Secondary Practicum	39	.42	.52	.14	.71	1.53	.22
Combined Courses	39	.22	.90	.40	.82	1.65	.44

*$p < .05$

CHAPTER V: DISCUSSION

This chapter provides discussion points for the completed research. A summary of the purpose of this study is followed by the hypotheses and results. Implications for each predictor variable and the edTPA are explained. The theoretical and conceptual framework are revisited and connected to the education system as it pertains to this study. Finally, suggestions for future research will end the chapter.

Hypotheses

This study tested the following null hypotheses of two key research questions: 1) academic factors at program admission do not predict successful edTPA scores for PETE candidates; 2) senior-level academic factors do not predict successful edTPA scores or individual task scores for PETE candidates; 3) Senior-level academic factors are not associated with edTPA task scores. The results indicated rejection of two of the hypotheses; therefore, academic factors at program admission predict successful edTPA scores for PETE candidates, and senior-level academic factors are associated with edTPA task scores for PETE candidates. Specifically, Praxis Core exam scores as a whole (combined reading, math, and writing scores) and Praxis Core writing scores were predictors of successful edTPA portfolios. In addition to these exam scores, a secondary methods course in the PETE program was associated with the edTPA Task 3/assessment score.

Program admission requirements of a minimum ACT score of 22, a minimum GPA of 2.75, a Praxis Core reading score of 156 or above, and a Praxis Core math score of 150 or above were not predictors of a successful edTPA for PETE candidates. The content knowledge Praxis II exam required for licensure was not associated with a

successful edTPA score or individual edTPA task scores. Senior-level methods and practicum courses for elementary grades and senior-level practicum for secondary grades did not reveal an association with individual edTPA task scores.

Theoretical and Conceptual Frameworks

Systems inquiry was used as the lens of this research as it demonstrated "the 'embeddedness' of educational systems operating at several interconnected levels (e.g., institutional, administrational, instructional, learning experience levels)" (p. 47, Banathy & Jenlink, 2003). The policies decided upon by state legislation and state boards of education create a mutual interdependence with educator preparation programs' faculty and policies. All stakeholders, government, education, and society, share the goal of quality education provided by quality educators, which makes for a strong foundation for the system's function/structure. The steps to achieve this goal is the fault line of the function/structure due to the diversity of the stakeholders. The systems-environment relationships within and across these stakeholder groups leads to efforts of identifying problems within K-12 education and/or educator preparation then implementing new processes to address them. However, the application of systems inquiry, specifically conclusion-oriented inquiry, has led to practices that are not beneficial to the framework's common goal of improving public education through improving educator preparation programs and producing effective teachers.

Based on the results of this study, requiring specific program scores for ACT, GPA, or course grades may not be the necessary process/behavior of predicting or securing successful candidates. Other skills, such as writing, may be a process/behavior that could contribute to the functions/structure of the framework as a step to achieving the

goal of candidates successfully completing the edTPA. This step leads to the goal of obtaining licensure, and if the edTPA does predict which candidates will be effective, putting new teachers in K-12 classrooms who can improve achievement. In light of this framework and study results, the current decisions for program entrance are not necessarily valid. The argument for admitting strong academic candidates can be made; however, this argument does not lend to admitting strong teaching candidates and ignores the omission of potentially strong teaching candidates.

Implications

The following sections will provide implications of the study's results relative to the program and licensure requirements of ACT, GPA, Praxis Core exam scores, Praxis II exam scores, and course grades for elementary and secondary methods and practicum.

ACT Score

The consensus of research relative to ACT scores is that students who enter college with stronger academic scores tend to perform better on most academic outcome measures in college (Clark, Kara-Soterious, & Alfano, 2017). Results vary when comparing ACT scores in relationship to pre-service teaching. D'Agostino and Powers (2009) found a modest relationship in a meta-analysis of 29 studies while Bowers (1998), Dybdahl, Shaw, and Edwards (1997), and Hickens (1992) did not find a significant relationship between the two variables. This study's results align with the second group, finding no significance between PETE candidates' ACT score and edTPA performance. The state of Tennessee requires a minimum ACT score of 21 for educator program admission, and the EPP requires a 22 or better. This study's analysis used dichotomous categories of ACT as 15-22 and 23-32; no significant relationship was found. While ACT

is related to college performance, it is not necessarily related to teaching skills and performance. Few majors require the complex skill set of content knowledge, problem solving, data analysis, utilizing resources, technology implementation, cooperative and collaborative learning, organization, and management of people in the way teaching does. Therefore, state boards of education and EPPs should consider whether ACT scores represent the qualities of effective teaching. If not, then ACT score requirements should be lowered or removed.

GPA

GPA is commonly used as a measure of academic ability, prior success, basic skill competence, or a means of comparison of students. Research in education has found it to be a significant predictor of college academic success (Garza, Mundy, Varela, Ybarra, & Yuma, 2016) as well as state licensure standardized exam scores (Jones, McDonald, Maddox, & McDonald, 2011). However, no significant relationship between GPA and teaching was found in other studies (Bowers, 1998; Dee & Morton, 2016). None of these studies were specific to PETE candidates. This study did not find a significant relationship to a successful score of the current measure of teaching for PETE candidates, the edTPA. A possible reason for the lack of significance may be due to the small range (1.25 total points) of grade point averages, created by a minimum requirement of 2.75, and resulting in a standard deviation of 0.3.

EPPs commonly require a minimum GPA for admission as set forth by the respective state board of education; the state of Tennessee requires 2.75 or higher. The GPA at program admission mostly consists of grades from general education courses taken in the first two to two and a half years of college. This time period and selection of

courses may not be the most accurate reflection of a student's potential to become a teacher as they are relatively young, learning how to function as a college student, and often are unsure of their major choice. Furthermore, the general education classes may not feel motivating or engaging to the students' major/career choice which can lead to poor performance. If a minimum GPA of 2.75 is not significant, state boards of education and EPPs should consider whether a lower requirement such as 2.5 would allow more candidates to pursue teaching who could potentially be as effective as their peers with GPA of 2.75. Another option to consider instead of lowering the GPA requirement is an adding an elective course for interested candidates with a lower GPA to take and help them determine if teaching is what they want to pursue by learning about the experiences in the major and field.

Praxis Core Exam Scores

The Praxis Core exam is required at this EPP if the candidate has an ACT score lower than 22. The exam consists of three parts: reading, math, and writing. Research has found candidates who pass all three parts at a median state level are more likely to pass the Praxis II/content knowledge exam later in their college career (Gitomer, Brown, & Bonnet, 20011; Owens-Oliver, 2014). The Praxis II/content knowledge exam is a standardized multiple-choice test which does not reflect teaching behaviors and skills. The same studies that found ACT to be insignificant to successful student-teaching also found no relationship between Praxis Core exams and successful student-teaching (Bowers, 1998; Dybdahl, Shaw, and Edwards,1997; Hickens, 1992).

This study did not compare relationships between Praxis Core and Praxis II; however, it did compare each to a successful edTPA score which better reflects an

authentic experience of teaching than a multiple-choice test. A statistically significant relationship was revealed when all three parts of the Praxis Core were analyzed as a whole; writing was the only single test that had a significant result. Selke and colleagues (2014) found that candidates may be effective teachers but not necessarily skilled in writing about their practices which confirms the act of teaching being measured by the edTPA rubrics may not be accurately assessed if candidates do not demonstrate effective writing.

The edTPA portfolio consists of numerous pieces of supporting evidence such as context for learning, lesson plans, assessments, evaluation assessments, materials and resources, and video clips (20 minutes maximum of teaching; 15 minute maximum of student performance assessment) from the learning segment (3-5 lessons). However, the commentaries for each task (planning, instruction, and assessment) are the only items scored with the rubrics (Appendix B). All three tasks combine for 14 prompts with a varying number of subparts. The total number of commentaries teacher-candidates must provide is 34. Each prompt requires candidates to specifically give one or more of the following types of response: identify, describe, explain, or justify. This amount of extensive writing helps explain why the Praxis Core writing exam had a significant association with the edTPA total score. When the edTPA was piloted across the country, language arts and social studies candidates had the highest national scores (Edmundson, 2017). The higher scores were credited to the greater training in writing candidates in those subject areas receive compared to peers in other content areas. To be successful with the edTPA, candidates have to be able to perform the skills and behaviors of

effective planning, instruction, and assessment in addition to thoroughly analyzing and communicating the results and decision-making process.

If states continue to use the edTPA as a licensure assessment, educator preparation programs should consider collaborating with the general education requirement committee and English department to tailor one of the required English courses for teacher-candidates. For example, at this university, all students must pass three English courses with a C- or better: expository writing, research and argumentative writing, and fundamentals of communication (Appendix C). The goals of these courses, to be able to read critically and use evidence and analysis to effectively communicate in writing, are necessary for successful edTPA portfolios. Sections of these courses can be designated for teacher-candidates or potential teacher-candidates to be given assignments relative to the analysis of skills, behaviors, processes, and products that could better prepare them for writing the edTPA commentaries. Other supports that EPPs or PETE programs could provide is writing workshops and/or course assignments in the preceding semesters of edTPA submission to create and revise mock commentaries. Edmundson's study (2017) revealed high GPA is not equated to strong writing skills. Recognizing the insignificant GPA association and significant writing association in this study, state boards of education and EPPs need to consider these findings when determining program admissions and how they may affect the screening of potential teacher-candidates.

Praxis II/Content Knowledge Exam Scores

The state of Tennessee requires Praxis II Content and Design (5095) test for licensure. It consists of 90 multiple-choice questions plus 2 constructed-response questions. The multiple-choice section pertains to knowledge of fitness, kinesiology,

exercise physiology, fundamental movements, and sports; knowledge of natural and social science areas that provide foundations for teaching activities; and knowledge of crucial topics in health and safety. The constructed-response questions measure the ability to design fitness and skill activities for physical education classes (Educational Testing Services, 2017). No association between Praxis II/content knowledge exam scores and the total score or task scores of edTPA were found in this study. No previous research could be located relative to Praxis II series and the edTPA except the Principles of Learning and Teaching (PLT) exam. While the current results are insignificant and the overall data is lacking, the Praxis II is significant to educator preparation and licensure. The test provides a measurement of content knowledge and task design that candidates should have in order to be able to effectively plan and teach as well as a create a successful edTPA learning segment. Without strong content knowledge to build developmentally appropriate tasks, progressions, and assessments, candidates would not have meaningful teaching and learning evidence to analyze and discuss in their edTPA commentaries. EPPs should carefully consider when candidates are required to take and pass the Praxis II exam. Praxis II/content knowledge can be used as a prerequisite to student-teaching to help ensure candidates know their content and are better prepared for the edTPA process. This study's EPP is currently in the process of changing policy to reflect this practice.

Methods and Practicum Courses

Results from two previous studies showed assignments in methods courses that mirrored the edTPA tasks were specific contributors to successful completion of the edTPA (Holden, Parkes, and O'Leary, 2020) or at least helped candidates develop skills

necessary to prepare for the edTPA process (Davis & Walsh, 2019). Both of these studies are similar to this research in that they analyzed scores of small groups (34, 6) of physical education teacher candidates. Current results indicate a significant association between the secondary methods course and Task 3 of the edTPA. No other associations were found between the elementary methods or practicum or the secondary practicum to total edTPA or individual task scores.

For this program, candidates are enrolled in all four courses the same semester, spending the first half in elementary and the second half in secondary. The prior semester is when candidates complete the physical education introductory course of pedagogy and practicum which includes teaching younger peers. When they reach Residency II, where the edTPA is completed, they have had three consecutive practicums and taught at least 24 lessons on their own. This PETE program has made reflective changes to coursework over the past six years to better prepare candidates for the edTPA process. Reflection assignments in all three practicum courses have included modified edTPA prompts to scaffold candidates' awareness and analysis of teaching and learning. The teacher candidates video-record all elementary and secondary practicum lessons to use for the reflection assignment as well as to become comfortable in front of the camera and wearing a microphone. The assessment course has been modified to specifically practice Task 3/assessment of the edTPA, and the changes may contribute to the significance to this task. Assignments include creating assessments, creating evaluation criteria, administering assessments, analyzing assessment results, and writing commentaries to prompts that mirror the edTPA. Candidates also use mock data to develop a lesson plan that addresses individual and groups of students' strengths and weaknesses. The

specificity and appropriateness of the plan is evaluated, and new data is returned to reflect how students would have likely progressed or maintained performance levels. Candidates then use the new data to respond to edTPA prompts. Because of these experiences aligning to the edTPA process and product and being practiced multiple times, the timing and sequence of the secondary methods course may be the reason for the significant finding. Another factor may be that the scored edTPA is done in a secondary school, and the experiences from secondary methods align well.

These course details demonstrate each of the three levels of change presented by Ledwell and Oyler (2016) (Table 1). Level 1 included relabeling some course content to align with edTPA idioms. This change was made across the program for the purpose of teaching edTPA terms such as learning segment, academic language, function, support, syntax, and discourse. Level 2 included the integration of more emphases on formative assessment, planning lessons in sequence, and assessment practices. These changes were made in the curriculum and assignment choices of the assessment course in tandem with the pedagogy course and practicum. The changes were added to the the elementary and secondary methods and practicum courses for continuity and additional practice.
Level 3 involved the integrated practice of the edTPA into a methods class. The secondary methods and practicum courses had assignments edited to specifically mirror prompts from the edTPA tasks. These adjustments signify the impact of the edTPA on the PETE program, resulting in proactive and reflective changes to better prepare candidates for successful completion of the edTPA.

The edTPA

State boards of education and educator preparation programs that choose to require the edTPA for graduation and/or licensure need to understand the factors and qualities that will make their programs and candidates most successful. Benchmarks for admission into the program need to align with the benchmarks to complete the program and gain licensure. By choosing the edTPA as the final benchmark, policymakers are indicating that a successful portfolio is the measure of a teacher-candidate ready to become a professional. The edTPA is a very unique assessment compared to the traditional standardized assessments and scores that have been used in the past to screen applicants. If the traditional scores are not indicative of how well a student will perform in the program, perform on the edTPA, or most importantly the potential to effectively teach, then revised policies need to be made. States, EPPs, and PETE programs need to align benchmarks and requirements with the final product of quality and effective teachers. Otherwise, applicants who could succeed and become teachers are being eliminated without cause.

Future Research

The edTPA has been implemented in the United States since pilot-testing ended in 2013. More than 80% of states have added it to their system of assessments, and half of those states have chosen to use it as an educator preparation program requirement and/or state licensure. However, two states, Georgia and Washington, eliminated it during 2020-2021. Two other states, Illinois and Connecticut, have proposed bills in legislation in 2021 to eliminate it. Therefore, more empirical research is needed to help policymakers make the most informed decisions that will address both the accountability and quality

issues in education. Much of the existing research has been qualitative, offering insight to how candidates, faculty, and mentors experience the edTPA process. However, policies are often born out of numbers and statistics in education, and quantitative research is needed.

To extend this specific study, more PETE programs from the state of Tennessee should be added to create a larger number of candidates and scores. Other states could do the same and comparisons could be made against each other or regionally to help determine how context, demographics, and program courses affect performance on the edTPA. A key factor in studying the same predictor variables across states is the varying scores that are required for program admission and completion as they will not all be the same as Tennessee. Different required scores create a change in the range and standard deviation of the variables; therefore, the significance of each could change. This type of data would be beneficial for state policymakers, administration of EPPs, and PETE faculty to understand how predictor variables affect the selection and success of candidates.

Another extension of this study is to replicate it using multiple subject areas. Specialized subject areas similar to physical education, such as art and music, would provide a comparison of results within subject areas that do not have the same students every day, teach multiple grade levels per day, and are not state/standardized tested subjects. Music and performing arts are unique like physical education in that the demonstration of most learning is a performance rather than a written product. This characteristic would provide comparisons of tasks and rubric scores. This data would be helpful to state policymakers, EPP administration, and faculty to understand how

teaching and learning differ across content areas which means a different tool of teaching evaluation may be needed. This type of study would also contribute to the selection and success of candidates.

Summary

State policymakers, educator preparation program administration, and physical education teacher education faculty may benefit from understanding factors that predict candidates' success on the edTPA considering the limited research specific to physical education teacher education and the edTPA. Therefore, the purpose of this research was to determine whether success on the edTPA can be correlated with GPA, standardized test scores for entry into teacher education, course work grades, and/or standardized test scores for licensure. This study was relevant due to the consequential use of the edTPA for licensure in the state of Tennessee as well as the limited research specific to PETE and the edTPA. Educator preparation programs and state boards of education use these standardized tests and benchmarks as requirements for admission, graduation, and licensure. Therefore, if academic experiences and characteristics, such as GPA or Praxis score, predict success on the edTPA, then EPPs need to examine and accordingly adjust their program benchmarks in order to recruit and select teacher-candidates who can be successful. In addition to EPP policy, PETE faculty can use the results of the study relative to methods and practicum coursework to reflect on practices and assignments to help candidates become effective teachers and create a successful edTPA portfolio. The conclusions of this study are that writing skills and secondary methods coursework are key factors in preparing candidates to pass the edTPA.

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APPENDICES

APPENDIX A: IRB APPROVAL

Human Participant Research Proposal

IRBF004: EXEMPTION REQUEST FORM

"Exempt" Definition:

It is important that seekers of IRB exemption understand that "exempt" does not reflect its literal meaning but those protocols that qualify for "exempt status" are often reviewed by the MTSU Office of Compliance and do not require an annual continuing review. However, the procedure and documents requirement for exempt protocols are mostly same in comparison to those protocols that require more IRB oversight.

What does this form contain?

This new exemption request form contains several newly added features to help researchers to clearly outline their proposal to collect data from living individuals. Although more information is requested from the applicants, the review process is expected to focus on the research and human intervention than on minor issues. This form also contains space for reviewer comments thereby allowing the review process to resemble an informative discussion. The applicant must provide the necessary details for questions in Sections 1-11 (Refer to the following list of contents). The Sections 12 & 13 are for Office Use only.

1. Project Information
2. Investigator Information
3. Exemption Determination
4. Exemption for Research with minors
5. Selection of Research Category
6. Research Methods & Instruments
7. Participant Selection & Recruitment
8. Informed Consent
9. CITI Training
10. Mandatory Documents & Attachments
11. Investigators' Declaration and Assurance
12. *Review (Office Use)*
13. *IRB Action (Office Use)*

Mandatory requirements

- Completed informed consent form - Click
- All of the investigators must complete all required research-specific CITI training modules
- Provide a detailed strategy for avoiding COVID-19 infection if the participants will have direct interaction
- In addition, other documents may be required

Instructions for document submission.

- This application and support documents must be submitted by the faculty member who signs Section 11.2.
- Send all documents as separate files but in a single email to irb_submissions@mtsu.edu
- Submit all IRB forms in their original MS Word format – DO NOT CONVERT TO PDF

Review & Timeline

- Once the OC confirms that the application is complete, a complete review will be completed within 2 weeks
- This form will be sent back to the investigators with reviewers' comments and other instructions
- The review process is iterative and it depends on how swiftly the investigators are able to address all reviewers' concerns.
- Once a final approval has been issued, a "locked" version of this form will be sent to the investigators to be used as a guideline for their study.

This form also contains space for reviewer comments. Therefore, do not convert this to PDF but instead send the completed form to irb_submissions@mtsu.edu in its original MS Word format.

1. PROJECT INFORMATION

1.1 **Choose your review type:** ☒ EXEMPT
Review

1.2 Enter Project Title

Predictors of success on the Physical Education edTPA

1.3 Primary Investigator or Principal Investigator (PI) Information:

☐Faculty[4] ☐Staff[4] ☒Graduate[5,6] ☐Undergraduate[5,6] ☐Other[5,6]

Name	Alysia Jenkins
Email	alysia.jenkins@mtsu.edu *Telephone:* 6156689855
Alternate Email	bradandalysia@comcast.net **if PI is a student*
Department/Unit	HHP *College* BHS
Office Location	*Room* #114 *Building* MC *Box* #96
Contact Address	MANDATORY if Non-MTSU

CITI Program ID	7110820

Refer to https://www.mtsu.edu/irb/FAQ/ResponsibilitiesOfPI.php for PI responsibilities.

1.1 Faculty Advisor (FA) if the PI is a student:

Name	Tina Hall ☒Faculty ☐Staff ☐Other		
Email	tina.hall@mtsu.edu	*Telephone:*	615-898-2888
Department/Unit	HHP *College* BHS		
Office Location	*Room* #119 *Building* MC *Box* #96		
CITI Program ID	33895531		

Refer https://www.mtsu.edu/irb/FAQ/Faculty.php

- Must be completed by an MTSU faculty or a FTE if the PI is a student.
- The FA must submit the application packet by email to *irb_submissions@mtsu.edu* indicating that s/he has knowledge of this proposal.

1.4 Investigating Team *(List ALL Investigators - contact the Compliance Office for more than 6 Co-I's)*

Name/Email/Status	Department/Affiliation	CITI Training
Name: Don Belcher Email: don.belcher@mtsu.edu ☒Faculty/Staff ☐Student[5] ☐Non-MTSU ☐ Other	HHP	☒ Completed

Foot Notes:

[4] Faculty PI must complete and sign Sections 11.1 and 11.2

[5] The Student PI must complete Section 11.1 and an MTSU Faculty Advisor/mentor must sign Section 11.2. In addition, the application documents MUST be emailed to irb_submissions@mtsu.edu by the MTSU Faculty who completes Section 10.2 with a statement of approval in the body of the email.

[6] The Students, regardless of their affiliation, MUST complete "Students in Research" module from CITI Program

[7] The faculty advisor or sponsor MUST be an MTSU faculty member.

1.5 Submission Status of this Study:

☒ New Submission[1] ☐ Revision[2] ☐ Previous Protocol ID(s) given to this study[3]

[1] Check this box if this is the first time you are submitting this study for IRB review

[2] Check this box if you have already submitted this application to the IRB but you have been asked to make revisions to your application or other documents by the IRB or by the Compliance Staff

[3] Check this box and provide the IRB ID if you are trying to extend a previously approved IRB protocol

1.6 Research Classification *(select ALL that apply):*

☒ Social/Behavioral/Educational Research ☐ Biomedical Research

☐ Clinical Research ☐ Quality Assurance/Evaluation

1.7 Research Category *(select ALL that apply):*

☒ Faculty/Staff research ☐ FRCAC ☐ URECA ☐ Class Project

☒ Thesis Dissertation ☐ Not for Publication ☐ Publication/Presentation

☐ Other

1.8 Miscellaneous Questions:

Project Questions	**Response**	**Remark(s)**
Expected start date	01/25/2021	
Anticipated completion date The protocol will be closed on this date	01/24/2022	
Source of funding (Funding agency, number/ID, and expiration date)	n/a	

Review Tracking

Protocol ID	**21-1091 4**	**IRB Comments**
Date Received	**12/18/2020**	This protocol was previously discussed with Don Belcher over Email and a prereview has been done outside the context of IRB
Prescreen Date	**N/R**	
Revision Date (if applicable)	**N/R**	
Review Date	**12/18/2020**	

Revision Date (if applicable)	**N/R**	Administrative changes in the protocol
Approval Date	**12/18/2020**	
Expiration Date	**06/30/2022**	

2. EXEMPT DETERMINATION QUESTIONAIRE

2.1	**Vulnerable Subjects -** Are the subjects from a vulnerable group, such as, prisoners, seriously ill, cognitively impaired, protected minorities and/or *etc.*?	☐ **Yes** ☒ No
2.2	**Risk to the Subjects -** Does the research involve the collection of behavioral data which, if known outside the research, could reasonably place the subjects at risk for criminal or civil liabilities or be damaging to the individual's financial standing, employability or reputation?	☐ **Yes** ☒ No
2.3	**Sensitive Topics -** Will you be collecting information regarding sensitive topics or personal aspects of a subject's behavior, such as, drug or alcohol use, illegal conduct, sexual behavior, mental health an/or etc.?	☐ **Yes** ☒ No
2.4	**Video/audio -** Will you be audio/video recording participant's response?	☐ **Yes** ☒ No
2.5	**Discomfort(s) to the Subjects -** Will this study expose the subjects to discomfort or stress beyond the levels encountered in daily life?	☐ **Yes** ☒ No
2.6	**Research with Minors -** Does your research involve *collection of data from minors* or *use of data collected previously from minors*? Complete Section 4 if Yes	☐ **Yes** ☒ No

Other than question 3.6, if you answered "YES" to any of the above questions, then t research is DISQUALIFIED from obtaining an exempt designation

3. RESEARCH WITH MINORS

Additional information for data collection from minors and use of data previously collected from minors

If the intended delivery of the educational materials to the minors is not to verify a research question, then this study may qualify for exempt status. The investigating team must *complete the CITI SBR modules "Research with Children"* and *"Research in Public Elementary and Secondary Schools."*

The study involves: ☐Active participation of minors Complete 4.1 through 4.4

☐Use of data previously collected from minors Complete 4.1 and 4.2

4.1	Will this study involve activities other than the delivery of education **or the use of data from non-educational activities**? ***If YES, then NOT Exempt***	☒ **Yes** ☐ No
4.2	If answered "NO" for 4.1, then will/did the delivery of education entail(ed) typical curriculum? ***If NO, then this study is NOT Exempt***	☐ Yes ☒ **No**
4.3	The students will be tested to evaluate or assess a research question? ***If YES, then this study is NOT Exempt***	☒ **Yes** ☐ No

Parental Consent Question:

4.4 Will all of the minors do the same activity/activities or will the subjects will be selected from a class using a random sampling scheme?

☐Yes *No further action is necessary if the study passed the other exemption tests*

☐No If the students will be purposefully selected, then study may still qualify for exemption but you must obtain **PARENTAL CONSENT** and administer **the CHILD ASSENT**. Use the forms from the Expedited Review section for both of these processes.

4. RESEARCH CATEGORIES

The Federal Code [45 CFR 46 (46.101)] identifies the activities that fall within the following six categories as exempt. You MUST select the appropriate exemption category that apply to this study.

	Exemption Category - research activities that are exempt from continuing review	
1	Research conducted in established or commonly accepted **educational settings**, involving normal educational practices, such as, (i) research on regular and special education **instructional strategies**, or (ii) research on effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods	☐
2	Research involving the use of **educational tests** (cognitive diagnostic, aptitude, achievement), **survey procedures, interviews or observation of public behavior**, UNLESS (i) information obtained is recorded in such a manner that human subjects can be identified directly or through identifiers linked to the subjects; AND (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk or criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation	☐
3	Research involving the use of **educational tests** (cognitive diagnostic, aptitude, achievement), **survey procedures, interviews or observation of public behavior** that is not exempt in 5.2 of this section if: (i) the human subjects are elected or **appointed public officials or candidates for public office**; OR (ii) Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.	☐
4	Research involving the collection or study of **existing data, documents, records** (pathological specimens or diagnostic specimens) if publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects or the data were collected	☒

	through a different protocol approved by an ethics committee such as the IRB	
5	Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate or otherwise examine: (i) **Public benefit or service programs**; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; OR (iv) possible changes in methods or levels of payments for benefits or services under those programs	☐
6	**Taste and food quality evaluation and consumer acceptance studies:** (i) if wholesome foods without additives are consumed, OR (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe by the Food and Drug Administration (FDA) or approved by the Environmental Protection Agency (EPA) or the Food Safety and Inspection Services of the US Department of Agriculture	☐
	NONE OF THE ABOVE? – This study may not qualify for exemption.	■

5. RESEARCH METHODS & INSTRUMENTS

Fill or paste with appropriate text in the editable spaces provided. The ""Review Questions" shown within closed boxes are locked and cannot be edited until a review has been completed.

5.1 Protocol Summary – Use this section to summarize the entire protocol using all the steps presented in this protocol. Provide a step-by-step account all of the procedures and interventions/interactions to be experienced by the participants starting from the recruitment till debriefing. Also include time and resource commitments to the participants. Use subtitles or separate steps using paragraphs.

5.2 Study Description – Describe this study using the outline provided below:

5.2.1
Purpose

The purpose of this study is to determine whether student academic characteristics and/or coursework are predictors of success to the state teaching licence portfolio,the edTPA.

5.2.2
Background

Much of the research for predicting success on the edTPA has been conducted in four states, not including the state of this research. These few states limit the results to those contextual settings. Qualitative approaches are common in the current research, which attempt to better understand the experiences prior to and during the edTPA process for the personnel of educator programs and teacher candidates. Quantitative data has shown that GPA, ethnicity, and Praxis scores are reflective of the edTPA performance. This research will extend the data to reflect the content area of physical education. This data will help programs understand which benchmarks and practices yield better results for candidates in addition to examining differences between coursework and the overall edTPA and individual rubric scores.

5.2.3 Rationale for Using Human Subjects

Existing data will be used.

5.2.4 Study Design

A causal comparative design will be utilized to examine whether differences exist in the edTPA scores based on standardized tests used as program benchmarks and coursework. All data will be quantitative. The analysis will allow comparison of variable categories to identify possible indicators of success on the edTPA. The variables cannot be manipulated, and the event is retrospective to them. The dependent variables will be standardized test scores and benchmarks from GPA, ACT, Praxis Core, Praxis II/content knowledge exam, and coursework final grades. The complete set of data is available in the learning management system and banner beginning 2015. The independent variable will be the individual task scores and overall scores of the edTPA. The university began using the edTPA in 2013.

5.2.5 Other Information not Included Above

REVIEW QUESTION A: Is the purpose of this protocol and the associated procedures/interventions clearly described to make a rational decision? Reviewer Comments: Investigator Response:

5.3 Data Type – Check all those apply and provide additional information as directed

☒ Existing data *(complete 5.3.6)* ☐ Biospecimen *(complete 5.3.7)* ☐ Educational *(complete 5.3.1-5)*

☐ Social *(complete 5.3.1-5)* ☐ Behavioral *(complete 5.3.1-5)*

☐ Physical interventions ☐ Psychological interventions **THESE ARE DISQUALIFIED**

☐ OTHER(s)

5.3.1 COVID-19 Risk Assessment – Select one of the following

☐ Virtual or online interaction with NO direct physical contact with the participant

☐ **Direct physical interaction with the participant: Complete Section 5.6**

5.3.2 Data Acquisition - Select all that apply
Not applicable – NO NEW DATA ARE COLLECTED

***5.3.3 Provide a short description of what is collected in section 5.3.2 above*:**

5.3.4 Explain how the data described in 5.3.2 will be collected:

5.3.5 Describe how the data collected from 5.3.2 will be analyzed:

5.3.6 Existing Data – OTHER THAN BIOSPECIMEN

- *Definition:* "Existing Data" corresponds to the generalizable information generated or collected from living individuals using an approved IRB protocol. If the data were already collected without an IRB protocol, then IRB approval will not be granted.
- *Data Release:* If the existing data are not publicly available, a **Data Release Certification** may be needed from the original owner of the data in order to obtain IRB approval

Select all types of "existing data" to be used:

☐ Collected through a protocol previously approved by an IRB – Provide previous IRB details and be prepared to submit additional documents if directed by the IRB:

☐ Literature data/Public records- May qualify for an "exclusion" from IRB oversight

☒ Student records – Knowledge and expertise in FERPA regulations is mandatory

☐ Personal information - Complete *"Research and HIPPA …"*

☐ Health records - Complete "Health Information Privacy and Security" training through CITI

☐ Employee information – Complete *"Research and HIPPA …"* and *"Research involving workers"*

☐ Proprietary information – Data release agreement mandatory

☐ Data collected from MINORS – complete Section 4

☐ OTHER

Explain the data in detail and describe how they were originally collected: Data includes MTSU undergraduate physical education majors' ACT scores, Praxis Core scores, Praxis II scores, edTPA scores, and coursework grades in PHED 4000/4001 and PHED 4800/4801. The test scores were collected as part of the admissions process to the university or to the teacher education program. Coursework assignments were graded and stored in D2L platform during the respective course semester.

5.3.7 Biospecimen collected through a previously approved IRB protocol

REVIEW QUESTION B: Is the data acquisition, usage and analysis clearly explained?
Reviewer Comments:
Investigator Response:

5.4 Research Site(s) - Where will the research be conducted?

☐ MTSU – Department(s)/Building(s)

☐ Public Place(s)

☐ OTHER[12]

[12] *Permission letter(s) from non-MTSU organizations must be provided as a scanned PDF of a message written on an official letter head signed by an official from the organization who has such authority. Forwarded emails, text messages and other non-verifiable formats will NOT be accepted.*

5.5 What are the risks for the participants? – Describe in detail how this proposed study presents no more than minimal risk[13] to the participants.

[13] *"Minimal risk" describes the probability and magnitude of harm or potential discomfort anticipated in the research are not greater than those ordinarily encountered in daily life. Also note that research that involves more than minimal risk will disqualify this study from exemption.*

5.6 If the participants will have direct interactions with other participants or with the investigators, then complete this section to describe how this protocol will address the risk due to COVID-19.

Not Applicable

REVIEW QUESTION C: If risks are necessary, are they minimized to an extent such that the participants are only exposed to the same amount of risk they would experience in their normal life?
Reviewer Comments:
Investigator Response:

5.7 What are the benefits of this study?

5.7.1 ***To the field of science, society or common good:*** Professional practices of using program entrance exams and specific coursework assignments can be affected by the results of this research.

5.7.2 ***To the participants:*** The participants will not have any direct benefits.
NOTE: Include only the benefits the participants may receive in the context of this research. They would not receive this benefit outside this study. Please enter "The participants will not have any direct benefits" otherwise.

REVIEW QUESTION D: Does this study result in benefits that outweigh the potential risks?
Reviewer Comments:
Investigator Response:

6. PARTICIPANT INFORMATION

6.1 Research Participant Recruitment – Describe how you will recruit the participants (recruitment materials MUST be submitted with this form), indicate whether the participants are 18 years of age or older, estimate the approximate number of research participants and describe inclusion/exclusion criteria used in selecting the participants.

6.1.1 Recruitment Tool(s) – Visit https://mtsu.edu/irb/FAQ/Recruitment.php

☐Flyer

☐Word of mouth[14] ☐Email[14] ☐Telephone[14] ☐Regular Mail[14] (Submit sample)

[14]Send the recruitment transcript as a separate file for IRB review. If contacting the participants by email or telephone or regular mail, explain how you originally obtained their contact information.

☐Web posting – Explain how the initial contact will be made

☐Social media – EXPLAIN how the initial contact will be made

☐OTHER

6.1.2 Describe the recruitment strategy including the recruitment steps to be followed using the recruitment tools stated above:

6.2 Participant Description – Complete this section for all types of research including analysis of existing data (if previously collected data are used, then describe the source from whom the data were originally collected).

6.2.1 Participants' Age	22-46
6.2.2 Participant Description	MTSU undergraduate students enrolled in Physical Education major
6.2.3 Sample Size	40

6.2.4 Inclusion Criteria	Undergraduate students in MTSU Physical Education major who have been accepted into the teaching program and fully completed the B.S. degree, attempted and/or passed the Praxis II exam, and attempted and/or passed the edTPA between 2015-2020
6.2.5 Exclusion Criteria	Undergraduate students in MTSU Physical Education major who were not accepted into the teaching program or did not complete the B.S. degree
6.2.6 Compensation*	No *Complete Section 6.2.6.1 below*

All recruitment materials must be submitted for IRB approval, including transcripts of personal correspondences. If the participants are to be drawn from an institution or an organization that has the authority to allow its members to participate in human subject research, then proper approval notifications from that institution MUST be submitted with this application.

****6.2.6.1: Compensation Documentation Requirement:***

- Will the compensation have monetary value?
  ☐ Yes ☐ No
- If yes, will you be using MTSU funds or funds from an institution that requires documentation proof of how the compensation was disbursed?
  ☐ Yes ☐ No
- If No, then no further action is needed. Continue to 6.3 below.
- If you selected Yes, then additional documentation will be needed and the Compliance Office will direct you accordingly

6.3 Enrolling Participants from Psychology Research Pool (SONA): ☒ NOT Applicable

*Visit **http://capone.mtsu.edu/wlangsto/ResearchPoolPage.html** for further information.*

6.4 Recruiting Amazon Mechanical Turk workers ☒ NOT Applicable

Complete MTurk Additional information Page Form F023 (https://mtsu.edu/irb/forms.php)

6.5 Enrolling Qualtrics Panel members as participants ☒ NOT Applicable

Complete Qualtrics Panel Additional information Page Form F023b from the IRB Forms page (https://mtsu.edu/irb/forms.php)

REVIEW QUESTION E: Did you find the recruitment practice to be proper?
Reviewer Comments:
Investigator Response:

REVIEW QUESTION F: Does the proposed inducement sound reasonable without conflicts of interest or coercion?
Reviewer Comments:
Investigator Response:

6.6 Confidentiality – Describe in detail how you propose to protect the confidentiality of the information obtained from the participants. Mention if anyone outside the research team will have access to the participant information.

The undergraduate students connected to the existing data will be given a coded number to protect their identities.The data will be entered into one file. Only the investigating team will have access to the file.

6.7 Data Storage - Where will the data/records relating to the human participants be stored?

The data will be stored in Alysia Jenkins' office (MC 114).

Mandatory Data Storage Requirements:

- All Study related records (documentation of informed consent, surveys, study notes, data records, and all correspondence) be stored securely for **at least 3 years** after data collection ends.
- Additionally, the Tennessee State data retention requirement may apply (*refer MTSU Policy 129:* https://www.mtsu.edu/policies/general/129.php).
- Records must be stored securely in a faculty member's office on campus for 3 years. (Or another secure location if there is reason to believe the faculty member's office is not secure. These arrangements must be approved).
- Subsequently, the data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects.

REVIEW QUESTION G: Has/Have the researcher(s) done everything possible to protect the participants' anonymity and confidentiality?
Reviewer Comments:
Investigator Response:

8. INFORMED CONSENT

Investigators must remember that the consent process is like a conversation; it is not merely a document. Therefore, this process must be one of the center theme of your protocol in addition to protecting the autonomy and confidentiality of the subjects. The investigators are required to fully inform the participants on all of the activities to be carried out in the study and they must obtain consent from the latter prior to data collection. An informed consent document can be obtained from the MTSU IRB website. **Respond to these questions after completing the MTSU-approved informed consent template:**

8.1 Who will obtain informed consent? (Full Name(s)) Not Applicable

8.2 How will the consent be obtained? Not Applicable

(Describe how consent will be administered and obtained)

8.3 What language(s) is the text? Not Applicable

8.4 Where will the consent be obtained? Not Applicable

REVIEW QUESTION H: Is there enough evidence that the subjects are adequately informed and the autonomy of the participants respected?
Reviewer Comments:
Investigator Response:

REVIEW QUESTION I: Are the informed consent processes/documents fair and appropriate?
Reviewer Comments:
Investigator Response:

9. CITI TRAINING

This application WILL NOT be reviewed if the training for all of the investigators is incomplete

- The entire investigating team must complete "Social and Behavioral Research" basic training module
- Students must also complete "Students in Research" module in addition
- Study-specific and participant-specific modules/training must also be completed
- **Click here or visit http://www.mtsu.edu/irb/requirements.php to learn more**

The following CITI course(s) and modules are mandatory. Review your CITI training certificate and check boxes for all those modules that have been completed by the entire research team.

☒ Social & Behavioral Research (SBR)	
Modules for All Researchers	Modules required based on researcher status and the study
☐ Belmont Report and CITI … (ID: 1127) ☐ History and Ethical Principles - SBE (ID: 490) ☐ Defining Research ….. - SBE (ID: 491) ☐ The Federal Regulations - SBE (ID: 502) ☐ Assessing Risk - SBE (ID: 503) ☐ Informed Consent - SBE (ID: 504) ☐ Privacy and Confidentiality - SBE (ID: 505) ☐ Conflicts of Interest in …. (ID: 488) ☐ MTSU Module DEMO (ID 1073)	☒ Students in Research (ID 1321) **MANDATORY FOR STUDENTS** ☐ Research with Prisoners – SBE (ID: 506) ☐ Research with children – SBE (ID 507) ☐ Research in Public ….. Schools – SBE (ID 508) ☐ International Research – SBE (ID 509) ☐ International Studies (ID 971) ☐ Internet-based research – SBE (ID 510) ☐ Research and HIPAA …. (ID 14) ☐ Research on Workers/Employees (ID 483) ☐ Hot Topics (ID 487) ☐ IRB Member module (ID 816) ☐ IRB Administrators …. (ID 13813)

REVIEW QUESTION J: Are the reseachers' experience/qualification/training adequate?
Reviewer Comments:
Investigator Response:

10. ATTACHMENTS AND ENCLOSURES

Documents or Websites Included in this IRB submission:

☐ Informed Consent form ☐ Surveys/questioners/interview scripts

☐ Recruitment materials and transcripts ☐ Official Permission Letter(s)

☐ Prescreening/debriefing materials ☐ CITI certificates

☐ OTHER(S), Specify:

☐ Online link(s):

Separate the links by ";" for materials to be reviewed (video clips, literature data and etc.)

11. DECLARATION

PI Status:

☒ Student – Complete 11.1 and have faculty advisor/sponsor must fill 11.2

☐ Faculty/Staff – Complete 11.1 AND 11.2

11.1 Primary Investigator's Assurance

I, Alysia Jenkins, hereby certify that

	Indicate acceptance by entering initials
1. As the PI of this study, I assure that this application packet has been fully completed by providing all essential and required information.	AJ
2. The information provided for this exemption request is accurate to the best of my knowledge.	AJ
3. All of the investigators have completed all research-specific CITI training; I will inform the IRB immediately if training deficiencies should occur.	AJ
4. Email addresses and contact information for all investigators are given.	AJ
5. Surveys, questionnaires, tests, interview forms etc. have been included.	N/A
6. Recruitment materials (OR/and) signup information for using Psychology research pool is completed *(Enter N/A if not applicable).*	N/A
7. A filled informed consent form is attached.	AJ

8. PDF scan of all signed permission letters for researching at outside institutions (e.g., schools), is provided on official letterhead (Enter N/A if not applicable).	N/A
9. Once this protocol has been approved,	
• I will make every effort to protect the safety and welfare of the participants. I will inform the IRB immediately of any adverse events to the participants.	AJ
• Any deviations from the proposed methods will be reported immediately and changes will be implemented only after IRB approval.	AJ
• I will submit a status report of this study if directed by the IRB.	AJ
• I am aware of potential liabilities and sanctions for failure to adhere to my proposed protocol from IRB and non-IRB entities within MTSU and I agree to comply with those requirements.	AJ
• I assure that the data collected during this study and other records will be stored in a secure place within MTSU, such as the office of an MTSU faculty member. I also assure that the records will be stored for at least three years after the active data collection has been ceased.	AJ

PI[14] Alysia Jenkins Date: 12/7/2020

[14]Student PIs must complete this section using their MTSU FSA account

11.2 Faculty Investigator's Assurance

This section must be completed by an MTSU faculty member regardless if the PI is a student or not. An MTSU faculty member must read and endorse this section if the applicant is a student. Preferably use your MTSU FSA account when completing this section. If using a home computer, please ensure that you use a licensed version of MS Office for capturing the identity of the signee. Please visit the Faculty Information page http://www.mtsu.edu/irb/FAQ/Faculty.php before signing off this form.

I, **Tina J. Hall**, hereby certify that	Indicate acceptance by entering initials
1. This project will be carried out under my direct supervision	tjh
2. The investigators are competent and professional to work with human subjects and they comply with all of the provision required for the approval of this protocol	tjh
3. I have read this application thoroughly and I attest to its scientific merit.	tjh

4. I am fully aware of the activities to be performed under this exemption request. tjh
5. All of the investigators, including myself, have completed all research-specific CITI training; I will inform training deficiencies to the IRB immediately. tjh
6. Once this protocol has been approved,
   - I will report any significant or adverse events related to this study to the IRB within 72 hours of when I become aware of such incidents. I will also report breaches, such as, negligence or compromise to participant confidentiality or study-related injuries/discomforts to the participant. tjh
   - I take full responsibility to review any future changes or alterations to this study before a formal request is submitted to the IRB. Any deviations from the proposed methods will be reported immediately and changes will be implemented only after IRB approval tjh
   - I am aware of potential liabilities and sanctions for failure to adhere to my proposed protocol from IRB and non-IRB entities within MTSU and I agree to comply with those requirements[16] tjh
   - I assure that the data collected during this study and other records will be stored in a secure place in my Office or in my Department Office. I also assure that the records will be stored for at least three years after the active data collection has been ceased. tjh
   - I agree to meet with the investigators on a regular basis to monitor the study progress and compliance. I will retain records of such meetings, like email transactions and other verifiable communication records. I will also document specific conversations that would entail the welfare of the participants and other courses of actions tjh

Faculty[15] Tina J. Hall

[15]Preferably complete this section using using your MTSU FSA account

[16]Faculty Sponsor Responsibilities - http://www.mtsu.edu/irb/FAQ/Faculty.php

Date: 12/28/2020

INSTRUCTIONS FOR SUBMISSION:

- This application and support documents must be submitted by the faculty member who signed Section 11.2.
- Send all documents as separate files but in a single email to irb_submissions@mtsu.edu
- If multiple emails had to be sent due to memory insufficiency, then provide a proper explanation in each email
- Submit all IRB forms in their original MS Word format – DO NOT CONVERT TO PDF

The REVIEW STEPS

- The Office of Compliance (OC) will issue an IRB ID if the submission is determined to be complete
- If the application is incomplete, then the IRB request will be returned with no action
- Once the OC confirms that the application is complete, a reviewer will inspect the application packet and will enter any comments or request for additional information in the appropriate space provided within this form
- This form will be sent back to the investigators with reviewers' comments
- The investigators will receive any review comments, request for clarifications or recommended revisions along with other concerns. The review process is iterative and it depends on how swiftly the investigators are able to address all reviewers' concerns.
- Once a final approval has been issued, a "locked" version of this form will be sent to the investigators to be used as a guideline for their study.

12. REVIEWER SECTION
(Office Use Only)

Exempt Pre-Review Checklist	**Y**	**N**	**N/A**	**Reviewer Comments**
Application is complete	☐	☐	☐	
Informed consent is complete	☐	☐		
Recruitment/Debriefing is provided	☐	☐	☐	
Link for web-based research – TRAINING REQD	☐	☐	☐	
CITI Training Complete (PI, FA, Co-Investigators)	☐	☐	☐	
Application Appendices	☐	☐	☐	
Faculty Endorsement	☐	☐	☐	
Off-site Permission Letters	☐	☐	☐	
Research Instruments and Tools (i.e. Surveys)	☐	☐	☐	
Grant Information/Source of Funding Provided	☐	☐	☐	
Participant Pool	☐	☐	☐	
Sample Size	☐	☐	☐	
Restrictions	☐	☐	☐	

Y	**N**	**Reviewer Comments**

Exempt Designation Criteria			
Subjects are considered "Vulnerable" according to OHRP's subpart definition [Examples – prisoners, cognitively impaired, seriously ill, pregnant women, minors (other than educational research)]	☐	☐	
Behavioral information collected in this study could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the individual's financial standing, employability or reputation	☐	☐	
Data involves sensitive information or personal aspects of the subject's behavior (drug/alcohol use, illegal conduct, sexual behavior, mental health, etc.)	☐	☐	
Except for researching normal education practices, will this study involve minors (under 18)?	☐	☐	
The subjects may be exposed to discomfort or stress beyond the levels encountered in daily life	☐	☐	
Video- or audiotaping is conducted	☐	☐	

13. IRB ACTION

Review Summary: **Yes** **No**

a. Is the purpose of this protocol clear? ☐ ☐

b. Did you find the recruitment practice to be proper? ☐ ☐

c. Does the proposed inducement sound reasonable? ☐ ☐

d. Are the researchers' experience adequate? ☐ ☐

e. Is there enough evidence that the subjects are adequately informed? ☐ ☐

f. Are the informed consent process/documents appropriate? ☐ ☐

g. Will the researchers protect the participants' confidentiality? ☐ ☐

h. If risks are necessary, are the minimized to the maximum extent? ☐ ☐

i. Does this study result in benefits that outweigh the potential risks? ☐ ☐

j. Did the researcher(s) clearly explain the data usage? ☐ ☐

If there is any reason why you may not be able to check “Yes” for all of the above questions, then please summarize your concern below:

Applicability:

Choose the criteria for IRB exemption: *(4) Study involving existing data*

Correspondences - Enter review correspondences and paste email threads in the space below:

Recommendation:

Level of Risk:	☒ Lower than Minimal	☐ Greater than Minimal
Exemption Decision	☒ Exempt	☐ Revise and Resubmit
	☐ Defer (Expedited/Full)	☐ Not a “research”

Moses Prabu	12/18/2020
(Reviewer’s OC ID)	(Date of Determination)

APPENDIX B: PHYSICAL EDUCATION edTPA RUBRICS

Planning Rubrics

Rubric 1: Planning for Developing Competencies in Physical Education

How do the candidate's plans provide for a safe environment, build on each other, and develop students' competencies in the psychomotor domain and at least one other learning domain (cognitive, affective)?

Level 1[1]	Level 2	Level 3	Level 4	Level 5
Candidate's plans for instruction focus solely on one domain with no connections to any other domain. OR There are significant content inaccuracies that will lead to student misunderstandings. OR Standards, objectives, and learning tasks are not aligned with each other. OR Candidate does not include plans to provide a safe learning environment.	Candidate's plans for instruction include learning tasks that provide limited support for development of psychomotor competencies with vague connections to the cognitive or affective domain.	Candidate's plans for instruction build on each other and include learning tasks that support development of psychomotor competencies with clear connections to the cognitive OR affective domain.	Candidate's plans for instruction build on each other and include learning tasks that support development of psychomotor competencies with clear and consistent connections to the cognitive OR affective domains.	Candidate's plans for instruction build on each other and include learning tasks that maximize opportunities to respond to develop psychomotor competencies, with clear and consistent connections to the cognitive AND affective domains.

[1] Text representing key differences between adjacent score levels is shown in bold. Evidence that does not meet Level 1 criteria is scored at Level 1.

Rubric 2: Planning to Support Varied Student Learning Needs

How does the candidate use knowledge of his/her students to target support for students to develop competencies and knowledge in the psychomotor, cognitive, and/or affective domains?				
Level 1	Level 2	Level 3	Level 4	Level 5
There is no evidence of planned supports.[2] OR Candidate does not attend to ANY INSTRUCTIONAL requirements in IEPs and 504 plans.	Planned supports are loosely tied to learning objectives or the central focus of the learning segment.	Planned supports are tied to learning objectives and the central focus with attention to the characteristics of the class as a whole.	Planned supports are tied to learning objectives and the central focus and address the needs of specific individuals OR groups with similar needs.	Level 4 plus: Planned supports include specific strategies to identify and respond to common student errors and misunderstandings.

[2] Planned supports are instructional strategies, approaches, and/or learning tasks that the candidate uses to develop competencies in the psychomotor, cognitive, and/or affective domains. Support includes such things as demonstrations, explanations, instructional cues, prompts, and multiple ways to engage with the content or activity, for example, choices in equipment, space, and level of practice tasks.

Rubric 3: Using Knowledge of Students to Inform Teaching and Learning

How does the candidate use knowledge of his/her students to justify instructional plans?				
Level 1	Level 2	Level 3	Level 4	Level 5
Candidate's justification of learning tasks is either missing OR represents a deficit view of students and their backgrounds.	Candidate justifies learning tasks with limited attention to students' • prior academic learning OR • personal, cultural, or community assets.	Candidate justifies why learning tasks (or their adaptations) are appropriate using examples of students' • prior academic learning OR • personal, cultural, or community assets. Candidate makes superficial connections to research and/or theory.	Candidate justifies why learning tasks (or their adaptations) are appropriate using examples of students' • prior academic learning AND • personal, cultural, or community assets. Candidate makes connections to research and/or theory.	Level 4 plus: Candidate's justification is supported by principles from research and/or theory.

Rubric 4: Identifying and Supporting Language Demands

How does the candidate identify and support language demands associated with a key physical education learning task?				
Level 1	Level 2	Level 3	Level 4	Level 5
Language demands[3] identified by the candidate are not consistent with the selected language function[4] OR learning task. OR Language supports are missing or are not aligned with the language demand(s) for the learning task.	Language supports primarily address one language demand (vocabulary, function, syntax, discourse).	General language supports address use of two or more language demands (vocabulary, function, syntax, discourse).	Targeted language supports address use of • vocabulary, • language function, AND • one or more additional language demands (syntax, discourse).	Level 4 plus: Language supports are designed to meet the needs of students with different levels of language learning.

[3] Language demands include: language function, vocabulary, syntax, and discourse (organizational structures, text structure, etc.).

[4] Language function refers to the learning outcome (verb) selected in prompt 4a (e.g., analyze, summarize).

Rubric 5: Planning Assessments to Monitor and Support Student Learning

How are the assessments selected or designed to provide evidence of student progress in developing competencies in the psychomotor domain and at least one other learning domain (cognitive, affective)?				
Level 1	Level 2	Level 3	Level 4	Level 5
The assessments do not provide evidence for students' competencies related to the psychomotor domain. OR Candidate does not attend to ANY ASSESSMENT requirements in IEPs and 504 plans.	The assessments provide limited evidence to monitor students' competencies in the psychomotor domain during the learning segment.	The assessments provide evidence to monitor students' competencies in the psychomotor domain AND the cognitive or affective domain during the learning segment.	The assessments include multiple forms of evidence to monitor students' competencies in • the psychomotor domain AND • the cognitive or affective domain throughout the learning segment.	Level 4 plus: The assessments are strategically designed to allow individuals or groups with specific needs to demonstrate their learning.

Instruction Rubrics

Rubric 6: Learning Environment

How does the candidate promote a safe, respectful, and organized learning environment that supports students?				
Level 1	Level 2	Level 3	Level 4	Level 5
Candidate allows disruptive behavior to interfere with student learning. OR There are safety problems visible on the video, posing an immediate danger to students. OR The clip(s) reveal evidence of disrespectful interactions between teacher and students or between students.	Candidate provides a physically safe learning environment with evidence of rules, routines, and transitions used primarily to control student behavior, and that minimally support the learning goals.	Candidate provides a positive, low-risk, emotionally and physically safe environment with evidence of rules, routines, and transitions used to provide sufficient time on task that supports the learning goals.	Candidate provides a positive, low-risk environment • with well-established rules, routines, and transitions; • that is emotionally and physically safe; and • that maximizes time on task related to learning goals.	Level 4 plus: Tasks are challenging for all students.

Rubric 7: Engaging Students in Learning

How does the candidate actively engage students in developing specific competencies in the psychomotor, cognitive, and/or affective domains?				
Level 1	Level 2	Level 3	Level 4	Level 5
Students are participating in tasks that are superficially related to the central focus.	Students are participating in learning tasks that focus on psychomotor competencies.	Students are engaged in learning tasks that focus on developing competencies in • the psychomotor domain AND • the cognitive or affective domain.	Students are engaged in learning tasks that focus on making connections between • performance in the psychomotor domain AND • related competencies in the cognitive OR affective domain.	Students are engaged in learning tasks that focus on making connections between • performance in the psychomotor domain and • related competencies in the cognitive AND affective domains.

Rubric 8: Strengthening Student Competencies

How does the candidate actively monitor students' actions to further develop their competencies in the psychomotor, cognitive, and/or affective domains?				
Level 1	Level 2	Level 3	Level 4	Level 5
Candidate monitors students' actions without intervening. OR Candidate responses include significant content inaccuracies that will lead to student misunderstandings.	While monitoring students' actions, the candidate asks surface-level questions or provides feedback that is general or vague in its relationship to improving student competencies in the psychomotor domain.	In actively monitoring students' actions, candidate asks questions or provides corrective feedback to the whole class or group to improve competencies in the • psychomotor AND • cognitive or affective domains.	In actively monitoring students' actions, candidate asks individual questions or provides individual corrective feedback to improve competencies in the • psychomotor AND • cognitive or affective domains.	Candidate actively monitors and facilitates interactions among students so they can provide individual, differentiated feedback to their peers during the learning task to improve competencies in the • psychomotor AND • cognitive or affective domains.

Rubric 9: Subject-Specific Pedagogy

How does the candidate use pedagogical content knowledge to develop students' competencies in psychomotor, cognitive, and/or affective domains?				
Level 1	Level 2	Level 3	Level 4	Level 5
Candidate implements learning tasks that are inappropriate to develop the student competencies in the central focus.	Candidate implements appropriate learning tasks that include instructional cues/prompts to make learning of physical activities comprehensible to students.	Candidate implements appropriate learning tasks that include instructional cues/prompts AND explorations/ demonstrations to make learning of physical activities comprehensible to students.	Candidate implements appropriate learning tasks that include instructional cues/prompts AND explorations/demonstrations that are differentiated for individuals or groups with similar learning needs.	Level 4 plus: Candidate facilitates students' application of their knowledge of movement to analyze their own and/or others' psychomotor skills.

Rubric 10: Analyzing Teaching Effectiveness

How does the candidate use evidence of student learning to evaluate and change teaching practice to better meet students' varied learning needs?				
Level 1	Level 2	Level 3	Level 4	Level 5
Candidate suggests changes unrelated to evidence of student learning.	Candidate proposes changes to teacher practice that are superficially related to student learning needs (e.g., more time, improving directions, quicker transitions).	Candidate proposes changes in teaching practice that address students' collective learning needs related to the central focus. Candidate makes superficial connections to research and/or theory.	Candidate proposes changes in teaching practice that address individual and collective learning needs related to the central focus. Candidate makes connections to research and/or theory.	Level 4 plus: Candidate justifies changes using principles from research and/or theory.

Assessment Rubrics

Rubric 11: Analysis of Student Learning

How does the candidate analyze evidence of student learning of specific competencies in the psychomotor, cognitive, and/or affective domains?				
Level 1	Level 2	Level 3	Level 4	Level 5
The analysis • is superficial, • is not supported by either student work samples or the summary of student learning, OR • does not address the psychomotor domain. OR The evaluation criteria, learning objectives, and/or analysis are not aligned with each other.	The analysis focuses on what students did OR did not do well in at least the psychomotor learning domain and is supported with evidence.	The analysis focuses on what students did AND did not do well in at least the psychomotor learning domain and is supported with direct evidence. AND Analysis includes some differences in learning for the whole class or selected sample.	The analysis • focuses on specific patterns of learning in the psychomotor domain and at least one other learning domain (cognitive, affective) and • is supported with direct evidence from the summary and work samples. AND Patterns of learning are described for whole class.	The analysis uses specific, direct evidence from related work samples to demonstrate the connections between quantitative and qualitative patterns of learning for individuals or groups in the psychomotor domain and at least one other learning domain (cognitive, affective).

Rubric 12: Providing Feedback to Guide Learning

What type of feedback does the candidate provide to focus students?				
Level 1	Level 2	Level 3	Level 4	Level 5
Feedback is unrelated to the psychomotor learning objectives OR is above the cognitive level of understanding of the students. OR Feedback contains significant content inaccuracies. OR No feedback is provided to one or more focus students.	Feedback is general and addresses needs AND/OR strengths in at least the psychomotor learning domain related to the learning objectives.	Feedback is specific and addresses either needs OR strengths in at least the psychomotor learning domain, and is related to the learning objectives.	Feedback is specific and addresses both strengths AND needs in the psychomotor and one other learning domain (cognitive, affective) related to the learning objectives.	Level 4 plus: Feedback for one or more focus students • provides a strategy to address an individual learning need OR • makes connections to prior learning or experience to improve learning.

Rubric 13: Student Understanding and Use of Feedback

How does the candidate support focus students to understand and apply the feedback to guide their further learning?				
Level 1	Level 2	Level 3	Level 4	Level 5
Opportunities for understanding or applying feedback are not described or evident on video clips. OR Candidate provides limited or no feedback to inform student learning. OR Feedback does not address psychomotor skills.	Candidate provides vague description of how focus students will understand or apply feedback. OR Candidate provides feedback (on video clips) but moves on to next student before seeing if the correction is made.	Candidate describes how focus students will understand or apply feedback in specific practice tasks.	Candidate describes how s/he will support focus students to understand and apply feedback on their strengths OR weaknesses in specific practice tasks.	Candidate describes how s/he will support focus students to understand and apply feedback on their strengths AND weaknesses in specific practice tasks.

Rubric 14: Analyzing Students' Language Use and Physical Education Learning

How does the candidate analyze students' use of language to develop content understanding?				
Level 1	Level 2	Level 3	Level 4	Level 5
Candidate identifies student language use in the video clips that is superficially related or unrelated to the language demands (function,[5] vocabulary, and additional demands). OR Candidate's description or explanation of language use is not consistent with the evidence submitted.	Candidate describes how students use only one language demand (vocabulary, function, syntax, discourse).	Candidate explains and provides evidence of students' use of • the language function AND • one or more additional language demands (vocabulary, syntax, discourse).[6]	Candidate explains and provides evidence of students' use of • the language function, • vocabulary, AND • additional language demand(s) (syntax, discourse) in ways that develop content understandings.	Level 4 plus: Candidate explains and provides evidence of language use and content learning for students with varied needs.

[5] Previous footnote is now obsolete and has been deleted.

[6] Previous footnote is now obsolete and has been deleted.

Rubric 15: Using Assessment to Inform Instruction

How does the candidate use the analysis of what students know and are able to do to plan next steps in instruction?				
Level 1	Level 2	Level 3	Level 4	Level 5
Next steps do not follow from the analysis. OR Next steps are not relevant to the learning objectives assessed. OR Next steps are not described in sufficient detail to understand them.	Next steps primarily focus on changes to teaching practice that are superficially related to student learning needs, for example, repeating instruction, pacing, or classroom management issues.	Next steps propose general support that improves student competencies related to assessed learning objectives in the psychomotor domain. Next steps are loosely connected with research and/or theory.	Next steps provide targeted support to individuals OR groups to improve competencies targeted in the learning segment in • the psychomotor domain AND • at least one additional learning domain (cognitive, affective). Next steps are connected with research and/or theory.	Next steps provide targeted support to individuals AND groups to improve competencies targeted in the learning segment in • the psychomotor domain AND • at least one additional learning domain (cognitive, affective). Next steps are justified with principles from research and/or theory.

APPENDIX C: PHYSICAL EDUCATION ACADEMIC MAP

2020–21 Physical Education Academic Map
Department of Health and Human Performance

FRESHMAN FALL			FRESHMAN SPRING		
Course	**Hours**	**Milestones/Notes**	**Course**	**Hours**	**Milestones/Notes**
ENGL 1010 (Comm)	3		ENGL 1020 (Comm)	3	
Hum/FA (Rubric 1)	3		Hum/FA (Rubric 2)	3	
Soc/Beh Sci (Rubric 1)	3	HLTH 1530/1531 rec.	PHED 2800	2	
HIST 2010, HIST 2020, or HIST 2030	3		Nat Sci (Rubric 1)	4	
HLTH 3300 or PHED 3300	3	Or approved First Aid/ CPR competency	HIST 2010, HIST 2020, or HIST 2030	3	
SUBTOTAL	**15**		**SUBTOTAL**	**15**	
SOPHOMORE FALL			**SOPHOMORE SPRING**		
ENGL 2020, ENGL 2030, or HUM 2610 (Hum/FA)	3		Nat Sci (Rubric 2)	4	
COMM 2200 (Comm)	3		PHED 4910	3	
MATH (Math)	3	Statistics rec.	PHED 4930	3	
Soc/Beh Sci (Rubric 2)	3		PHED 3430	3	
PHED 3930	2		YOED 2500	3	Sec. Ed. Minor
PHED 3720	3				
SUBTOTAL	**17**		**SUBTOTAL**	**16**	
NOTE: *Take Core Academic Exam in Fall Semester if ACT below 22; submit application to Teacher Education through Womack Educational Leadership Offi ce.*					
JUNIOR FALL			**JUNIOR SPRING**		
PHED 3900	3		PHED 4000/4001	4	
PHED 4400	3		PHED 4710	3	
PHED 4940	2		PHED 4780	3	
PHED 4470	2		YOED 3300	3	Sec. Ed. Minor
YOED 3000	3	Sec. Ed. Minor			
SUBTOTAL	**13**		**SUBTOTAL**	**13**	
SENIOR FALL			**SENIOR SPRING**		
PHED 4800/4801	6		YOED 4400	12	Professional semester–must complete for teacher licensure
PHED 4900/4901	6		PHED 4990	1	
YOED 4020	6	Sec. Ed. Minor			
SUBTOTAL	**18**		**SUBTOTAL**	**13**	
TOTAL HOURS IN PROGRAM: 120					

APPENDIX D: PHYSICAL EDUCATION COURSE DESCRIPTIONS

PHED 2800 - Introduction to Physical Education
2 credit hours
Introduces prospective students to the field of physical education. For those interested in teaching/coaching physical activities. Students taken through a broad range of activities in classrooms, gymnasiums, and outdoors.

PHED 3430 - Skill Themes: Games, Gymnastics, and Rhythms
3 credit hours
Fundamental areas of educational gymnastics, educational games, and educational/creative dance/rhythms. How movement education relates to an individual child's personal development--intellectually, emotionally, socially, and physically. Activities suitable for the needs, abilities, and interests of children and developmentally appropriate practices.

PHED 3720 - Fitness Education K-12
3 credit hours
Planning, teaching, and participating in individual and group fitness programs for K-12. Offers preparation to administer and interpret assessment of related components with the understanding of physiological principles related to exercise in the K-12 student. Major lifetime wellness activities covered.

PHED 3900 - Adapted Physical Education
3 credit hours
For physical education teacher candidates interested in improving the quality of physical education programs for students with disabilities. Includes best practices and approaches to planning and implementing physical education instruction for the inclusion of children and adults with disabilities in the educational, recreational, and physical fitness process and placement in the least restrictive environments and community programs. Addresses the unique needs of future physical education teachers.

PHED 3930 - Concepts and Tactics of Teaching Games
2 credit hours

Introduces the tactical approach to teaching games in physical education. Striking, fielding, and target games emphasized.

PHED 4000 - Pedagogy of Physical Education
3 credit hours
Prerequisites: PHED 2800 and PHED 4400. Corequisite: PHED 4001. Planning and instruction in the K-12 physical education setting including environmental arrangements, task presentation, content development, and classroom management.

PHED 4001 - Pedagogy of Physical Education Practicum
1 credit hour
Corequisite: PHED 4000. Provides teacher candidates with practicum experiences with peers and youth in physical education. Students will have an opportunity to apply and develop the skills and knowledge gained in PHED 4000.

PHED 4400 - Motor Behavior
3 credit hours
Processes related to the learning, control, and coordination of movement. Principles in motor learning, motor development, and motor control addressed in relation to movement and skill acquisition. Examines the major behavioral and control processes underlying the learning and performance of motor skills.

PHED 4470 - Educational Rhythms for Teachers
2 credit hours
Educational rhythms for teaching physical education. Rhythmic skills, progressive movement, and creative physical activities explored and utilized for the student's understanding of educational rhythms. Explores educational rhythms as an academic discipline as well as an art form and as a lifelong social/recreational activity.

PHED 4710 - Authentic Assessment in Teaching Physical Education
3 credit hours
Authentic assessment techniques used in teaching physical education. Matching appropriate assessment to different types of assessment instruments and to the objectives of the physical education curriculum. Computer applications related to assessment in physical education used.

PHED 4780 - Curriculum in Physical Education
3 credit hours
For physical education teacher candidates interested in improving the quality of physical education programs for students with and without disabilities. Reviews best practices and approaches to planning and implementing instruction, as well as the curriculum models of physical education. Addresses unique needs of future physical education teachers.

PHED 4800 - Elementary Physical Education Teaching Methods
3 credit hours
Prerequisite: Admission to teacher education program; PHED 3430, PHED 3900, PHED 4000, PHED 4001, PHED 4710, and PHED 4780 all with minimum grade of C. Planning, implementing, and evaluating the teaching-learning process at the elementary school level. Requires field experience in teaching physical education at an area elementary school.

PHED 4801 - Teaching Elementary Physical Education Practicum
3 credit hours
Practicum experiences in teaching physical education to children with special emphasis

on lesson planning, management, assessment, task presentation, and content development.

PHED 4900 - Secondary Physical Education Teaching Methods
3 credit hours
Prerequisite: Admission to teacher education program; PHED 3900, PHED 4000, PHED 4001, PHED 4710, and PHED 4780 all with minimum grade of C. Opportunity to observe the art of teaching and the act of learning in physical education classes at the secondary level. Advanced study and practice of effective teaching and learning theory in secondary physical education related to classroom, gymnasium, and field situations.

PHED 4901 - Teaching Secondary Physical Education Practicum
3 credit hours
Practicum experiences in teaching physical education to middle and high school learners with special emphasis on lesson planning, management, assessment, task presentation, and content development.

PHED 4910 - Applied Kinesiology and Biomechanics
3 credit hours
Study of the analysis of human movement based on the anatomical, physiological, and mechanical principles of human activities. Laboratory experiences included.

PHED 4930 - Teaching Territory Games
3 credit hours
Games and skills associated with a variety of territory games. Includes basketball, soccer, flag football, lacrosse, field hockey, etc. Emphasis on planning and applying developmentally appropriate activities for all learners.

PHED 4940 - Teaching Net and Wall Games
2 credit hours
Games and skills associated with a variety of net/wall games, including volleyball, tennis, badminton, table tennis, racquetball, etc. Emphasis placed on planning and applying developmentally appropriate activities for all learners.

PHED 4990 - Seminar in Teaching Physical Education
1 credit hour
Prerequisites: PHED 4800, PHED 4801, PHED 4900, and PHED 4901. A comprehensive review of the organization and management of physical education, presenting students with skills and strategies for becoming effective beginning teachers. Crucial issues and trends affecting the fields of physical education, including issues of advocacy, legal liability, alternative teaching strategies, ethics and professionalism, diversity, classroom management, and career planning.

YOED 2500 - Planning and Assessment
3 credit hours
Prerequisites: Completion of 45 semester hours and admission to Teacher Education. Offers preparation for planning instruction, assessing student learning, and understanding how classroom assessment and standardized testing should impact instruction. Introduces education policy, professionalism, and theory which informs students as they enter and practice the profession. Field experience required.

YOED 3000 - Classroom Management
3 credit hours
Prerequisites: YOED 2500 with grade of B- or better and admission to Teacher Education. Introduces a variety of classroom management strategies and techniques that will foster a positive learning environment in the classrooms. Provides an overview of behavior management models, theories, and research as a foundation for classroom practice. Facilitates, through the use of field experiences, the analysis of school-wide policies/procedures and insight on real life classroom management expectations of the first-year teacher.

YOED 3300 - Problem-Based Instructional Strategies
3 credit hours
Prerequisites: YOED 2500 with grade of B- or better and admission to Teacher Education. Offers preparation for students to develop and present instructional strategies that frame curriculum content in problem-solving contexts. Field experience in a public school setting required.

YOED 4030 - Residency I: Grades 7-12
9 credit hours
Prerequisites: Admission to teacher education program; successful completion of YOED 2500, YOED 3000, YOED 3300; overall grade point average maintained at a minimum of 2.75; grade point average in the major at a minimum of 2.5; and senior standing. A school-based clinical experience in a problem-based learning format.

YOED 4400 - Residency II
12 credit hours
Prerequisites: Admission to teacher education program; successful completion (with grade of B or better) of YOED 2500, YOED 3000, YOED 3300, YOED 4020,YOED 4030, or YOED 4040; passing score(s) on the specialty area exam(s) of Praxis II; overall grade point average maintained at a minimum of 2.75; grade point average in the major at a minimum of 2.50; and senior standing. A full-day, full-semester supervised teaching experience in a public-school classroom. Pass/Fail grading.