ABSTRACT

Title of Dissertation:	TEACHERS' PERCEPTIONS OF EDTPA ON THEIR PRACTICE
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For centuries, education policymakers have sought to identify the most effective way to assess a potential teacher's readiness to enter the classroom. These assessments evolved from multiple choice examinations to performance-based assessments focused on teacher actions. The latest iteration of these performance-baed assessments is edTPA.

edTPA's structure mirrors that of the assessment for National Board Certification (NBC) designed for veteran teachers. The NBC assessment has shown to be educative for teachers who complete it, leading to positive changes in their post-assessment practice (Athanases, 1994; Hattie & Clinton, 2010; Sato, Darling-Hammond and Wei, 2008; Steeley, 2003). This study examines whether edTPA has similar educative impacts on early career teachers.

Since edTPA is relatively new, little research has been completed on its impact on teacher practice. Most of the current literature on edTPA focuses on its

implementation or on pre-service candidate perceptions of completing the assessment. This interview study also examines candidate perceptions but focuses on whether they felt completing edTPA was educative and impacted their current practice.

This study includes twenty teachers who participated in two hour-long interviews given roughly six months apart. All of the participants were recent secondary mathematics education graduates from one university. This study is among the first studies of edTPA to include teachers who both completed edTPA and have been teaching for at least two years. Another unique strength of this study is that, prior to the second interview, candidates reviewed their actual edTPA portfolio to help recall components of the assessment and to potentially make clearer connections between edTPA and their current practices.

The study results support the notion that edTPA can be educative and influence a teacher's current practices around planning, instruction, and assessment. The level of influence that completing edTPA has on a teacher's practices may be impacted by school or district policies that either hinder or support high-scoring edTPA practices. The results demonstrate how edTPA can not only be seen as a summative tool at the end of pre-service teaching, but also a formative tool that impacts the teaching practices of early career teachers.

TEACHERS' PERCEPTIONS OF EDTPA ON THEIR PRACTICE

by

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Chapter 1: Introduction

In 2009, the Stanford Center of Assessment Learning and Equity (SCALE) introduced the teacher performance assessment edTPA© to teacher preparation programs across the United States. edTPA is modeled after the National Board Certification assessment for veteran teachers and evolved from the Performance Assessment for California Teachers (PACT) for pre-service teachers (SCALE, 2017). As of April 2018, edTPA is being, or has been, used by over 775 teacher preparation programs across 40 states and the District of Columbia.[1] Seventeen of those states require teacher candidates to complete an officially-scored edTPA (or other teacher performance assessment) as a summative assessment of their student teaching experience before program completion and/or to earn teacher certification.

SCALE (2017) maintains that edTPA differs from other licensure-entry assessments in that it was created to be "educative" for teacher candidates, faculty, and teacher preparation programs. Specifically, SCALE (2017) posits that candidates should "deepen their understanding of teaching through use of formative resources and materials while preparing for edTPA, and the score reports provide feedback on candidates' strengths and challenges as they move forward into their first years of

[1] As of December 2017. Information taken from http://edtpa.aacte.org/state-policy

teaching" (p. 5). As an educative assessment, edTPA should not only provide candidates entering the profession information about their strengths and areas of growth, but also influence their planning, instruction, assessment, and reflection on practice in their early years of teaching.

It is not without precedent that completing a teaching assessment can be a learning experience for teachers. Studies have shown that completing the National Board Certification (NBC) assessment can be educative for veteran teachers (Steeley, 2003; Hattie & Clinton, 2010). The NBC assessment has been linked to "substantial increase[s] in formative assessment practices for National Board candidates as they experienced the certification process, which [were] maintained in the subsequent year" (Sato, Wei & Darling-Hammond, 2008, p. 680). Specifically, as a result of completing the NBC assessment, teachers tend to adopt student-centered practices of instruction, assessment, and planning. Examples include: asking more open-ended questions during a lesson and providing students with more detailed feedback on assessments. However, veteran teachers choose to pursue National Board Certification whereas the overwhelming majority of teacher candidates complete the edTPA as a program and/or state requirement. It may be that the voluntary nature of the NBC contributes to the perception of its educativity and, reciprocally, that the required nature of edTPA that might lead to less glowing perceptions. That is, does edTPA create learning opportunities for pre-service teachers as the NBC does for veteran teachers or does the

NBC have more of an impact on veteran teachers due to their having chosen to complete the assessment?

This study used qualitative methods, namely interviews with early-career math teachers, to examine whether edTPA is educative. Twenty recent secondary mathematics education graduates from one university were interviewed about their experiences completing edTPA and their current pedagogical practices. A component of the study included a stimulated recall methodology in which participants were asked to reflect on the edTPA portfolios they submitted at the end of their teacher certification program. This study answered three research questions: a) What are secondary mathematics teacher retrospective and current perspectives of edTPA, including their experience and thoughts on how edTPA serves as an educative tool? b) How do secondary mathematics teachers describe their use or lack of use of student-centered edTPA practices for planning, instruction, and assessment in their current teaching? And, c) what factors do secondary math teachers cite as supporting or constraining their ability to implement student-centered pedagogical practices in their instruction?

The remainder of this chapter provides a brief description of edTPA, including language from three rubrics to illustrate distinctions between student-centered and low-scoring practices for edTPA's planning, instruction, and assessment tasks. This will be followed by a theoretical framework that demonstrates how completing performance assessments like edTPA may positively impact a teacher's practice.

An Introduction to edTPA and its Rubrics

edTPA is a subject-specific assessment focused on pre-service teachers' planning, instruction, and assessment of a three-to-five-hour learning segment, representing three to five consecutive lessons. Currently, edTPA has 27 different subject area handbooks available. According to SCALE (2017), these handbooks share 80% of the same design, which is focused on the teaching cycle of planning, instruction and assessment. The other 20% focuses on content-specific components. For example, three mathematics learning constructs reappear throughout the secondary mathematics handbook and rubrics: students' conceptual understanding of mathematics, mathematical procedural fluency, and mathematical reasoning and/or problem-solving skills (SCALE, 2016). Fifteen rubrics are used to assess the student's writing and videos of instruction: five in planning, five in instruction, and five in assessment. All fifteen rubrics are scored on a scale of one to five. "High scoring practices" are practices that would be scored a four or five out of five.

edTPA's overall "constructivist approach to support[ing] student learning" (Sato, 2014, p. 427) correlates with an emphasis on student-centered practices for instruction, planning, and assessment (as valuated in the rubrics). Sato cites Gage (2009) who divides teaching practice into two general models: progressive-discovery-constructivist and conventional-direct-recitation. Gage (2009) characterizes the former using four pillars. First, the constructivist classroom is represented by one in which teacher and students both constantly push for understanding of material as opposed to

memorization of material in the conventional model. Second, the teacher's main role is to facilitate student inquiry, not simply supply knowledge as in the conventional model. Third, classroom activities are adaptable to student interests and often provide opportunities to confirm or refute solutions or ideas. Fourth, the teacher frequently creates classroom assessments that align with student interests, culture or experience as well as their prior knowledge.

As Sato (2009) observes, these four pillars are reflected in the brief descriptions of high scoring practices on nearly all of the edTPA rubrics. Even rubrics that do not specifically address these four pillars, including rubrics where candidates are asked to reflect on their practice (Rubric 10) or consider next steps for instruction (Rubric 15), valorize student-centered practices. For example, in high scoring practices addressed in Rubric 10, candidates are asked to not only propose changes that impact the entire class, but also changes that addresses individual learning needs (SCALE, 2016b).

Planning task. As part of the edTPA planning task, teacher candidates are asked to "describe [their lesson] plans for the learning segment and explain how [their] instruction is appropriate for the students and the content [they] are teaching" (SCALE, 2016b, p. 8). Candidates also should submit their lesson plans for the three to five-hour learning segment including instructional materials such as handouts, PowerPoint slides, and assessments. Candidates also must submit a "planning commentary" that should address questions that reflect the five planning rubrics. For example, a planning prompt focused on student supports asks candidates to, "[d]escribe and justify why your

instructional strategies and planned supports are appropriate for the whole class, individuals, and/or groups of students with specific learning needs" (SCALE, 2016b, p. 11). In line with constructivist or student-centered practices, edTPA expects candidates to utilize student experiences and interests in their planned instruction, create student-centered learning opportunities, and reflect upon their inclusion of student assets and mathematical dispositions in lesson plans.

Rubric 3, one of the five edTPA planning rubrics for secondary mathematics, assesses candidates' demonstrated ability to plan student-centered lessons. As part of this, it asks, "[h]ow does the candidate use knowledge of his/her students to justify instructional plans?" (See Appendix A). To achieve a score of four or five (out of a possible five), there must be evidence of candidate reflection on "why learning tasks (or their adaptations) are appropriate using examples of students' prior academic learning AND personal, cultural, or community assets" (SCALE, 2016b, p. 16). Thus, high-scoring practices on rubric 3 involve developing student-centered lesson plans (i.e., lessons that are responsive to the students they teach).

Instruction task. For the instructional task, teacher candidates should "demonstrate how [they] support and engage students in learning" (SCALE, 2016b, p. 19). As part of this, candidates must submit an unedited video of their teaching. They can submit one or two video clips, for a total of between 3 and 15 minutes. Consistent with student-centered instruction, the video submissions should "demonstrate how [candidates] interact with students in a positive learning environment to develop

conceptual understanding, procedural fluency, and mathematical reasoning and/or problem-solving skills" (SCALE, 2016b, p. 19). Moreover, in the instructional commentary, candidates also are asked to reflect on specific practices they used to maintain a positive learning environment or to engage students in learning during their video clips. As part of this, they use time stamps to point to specific events or interactions in the video submission.

The five instruction task rubrics focus on candidate descriptions of and reflections on actions observed in the videos, including any specific changes they would make in future teaching of the same or similar material. Rubric 8, used to evaluate classroom discourse, assesses how the "candidate elicit[s] responses to promote thinking and to develop conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills" (SCALE, 2016b, p. 25). As with other rubrics, Rubric 8 valorizes student-centered instruction, effectively requiring candidates to "elicit and build on students' responses to develop understanding of mathematical concepts, procedures, AND mathematical reasoning and/or problem-solving skills" (SCALE, 2016, p. 25). Further, Rubric 8 also asks candidates to demonstrate student-centered competencies by engaging their students in discourse about their understandings of mathematical concepts in order to encourage higher-order thinking about these concepts.

Assessment task. As part of the edTPA assessment task, candidates analyze student learning that results from their instruction. There are two components to this

task. First, candidates are asked to analyze an assessment within their learning segment, looking at scores for the entire class. Second, they should provide three samples of graded assessments for three focus students from one of their classes. In the "assessment commentary," candidates should conduct and discuss an assessment analysis by examining patterns of correct and incorrect responses for both the entire class and also for the three focus students.

Candidates should also address the feedback they provided on student work samples and discuss whether there is evidence that this feedback furthered students' understandings of mathematical concepts. The guiding question for Rubric 12 is, "[w]hat type of feedback does the candidate provide to focus students?" (SCALE, 2016b, p. 34) For a high score on Rubric 12, candidates must provide feedback that, "is specific and addresses both strengths AND needs related to the learning objectives" (SCALE, 2016b, p. 34). As with the previous two examples, Rubric 12 reflects the student-centered bent of edTPA. In particular, Rubric 12 asks candidates to provide student-specific feedback that helps improve their understanding of the content. Writing specific positive and negative feedback (as opposed to a check, an X, or a "Good job") allows a teacher to tailor their comments to foster a specific student's academic growth, pushing them in the direction that he or she needs.

Reflective practice and academic language. In addition to the planning, instruction, and assessment tasks, edTPA includes a focus on two other aspects deemed important for student-centered teaching, namely, teacher reflection and academic

language. As mentioned, throughout the planning, instruction, and assessment commentaries, teacher candidates are asked to reflect on the decisions they make, considering ways they can improve by, for example, connecting student performance to future lessons.[2] Student-centered practices always involve a reflective element that moves beyond regurgitating what occurred or even listing what procedural changes can be made. Candidates are asked to demonstrate how modifications to the lesson in the instruction task or considerations for future lessons specifically address the whole class or individual students.

To earn high scores on edTPA, candidates must demonstrate appropriate use of academic language in their planning, instruction, and assessment. Rubric 4 of the planning task addresses academic language. Candidates must demonstrate where they address language components in their planning to receive a high score. Rubric 14 of the assessment task focuses on how candidates assessed and remediated student academic language, either in their video or on their sample assessment. The academic language component of edTPA initially was aimed at helping support English language learners but was later adopted to make sure all students understand terminology that is specific to a particular content (PACT, 2010; SCALE, 2017).

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[2] Initially, the reflection component was contained in a fourth task, Analyzing Teaching. However, SCALE staff, along with members of the higher education community, decided that the analysis was better served as a part of the instruction and assessment tasks. Thus, the number of tasks moved from four to three.

Theory of Action

The literature on teacher-candidate performance assessments, including studies on edTPA, proposes a *theory of action* that these assessments can create a standard measure of teacher preparedness for the classroom. At a time of teacher shortages and alternative pathways to teaching, the edTPA could provide a common experience and level ruler, albeit a student-centered one, for measuring pre-service teachers' actual teaching abilities.

A second, and related, theory of action is that edTPA could serve as means to professionalize the teaching profession in a similar way that medical boards have helped professionalize the medical profession (i.e., doctors) and the bar exam have worked to professionalize law practice (Darling-Hammond & Hyler, 2013). The creation of edTPA comes at a time when there is a rise of alternative pathways and fast-track programs to teaching that skip or reduce time spent on important aspects of traditional teacher preparation (e.g., supervised clinical fieldwork, subject-specific methods) (Brantlinger & Smith, 2013). The rise of such programs comes at a time when traditional teacher preparation programs have faced scrutiny for not being rigorous enough or for being too theoretical (Walsh & Jacobs, 2007). By this theory, edTPA becomes a means to strengthen traditional teacher preparation by being a seemingly unbiased summative assessment scored outside of the purview of the preparation program itself that both traditional and alternatively certified teachers would need to complete to earn their teaching license. Assessments like edTPA could help ensure that

all new teachers meet minimum standards for entering the classroom. While these theories of action are important, their main focus is on edTPA as it relates to pre-service teachers or for teachers that are just entering the profession.

A third theory of action is that edTPA is not just a tool to evaluate pre-service teachers, but that it also can serve as an educative tool for professional development that influences teacher practices years after completing the assessment. In this sense, the edTPA could function like the assessment for National Board Certification, which, as previously stated, has been found to be educative for in-service teachers who complete it. The graphic below (Figure 1) demonstrates the impact completing the National Board process has had on teachers and how this process coincides with pre-service teachers completing edTPA.

Performance Assessment Impacting Teacher Practice		
Veteran In-Service Teachers	National Board Assessment	Changes in practice (Athanases, 1994; Hattie & Clinton, 2010; Sato, Darling-Hammond and Wei, 2008; Steeley, 2003)
Pre-service Teachers to Veteran Teachers	edTPA	Student-focused planning, instruction and assessment; reflection on practice

Figure 1. Performance Assessment Impacting Teacher Practice

In focusing on the third theory of action, this study offers the possibility of edTPA having a broader impact on teacher practices than only determining teacher readiness in the first year. It is among the first to examine the educative nature of

edTPA. As part of this, it asks 20 early-career mathematics teachers what they learned as a result of completing edTPA and the extent to which their regular teaching routine includes planning, instructional, and assessment practices that would receive high-scores on edTPA rubrics – essentially student-centered pedagogical practices. Through interviews, candidates share their insights on the educativity of the edTPA. As part of this process, they revisit their original portfolio submissions and reflect on how their approach to planning, instruction, and assessment within in their submission relates to their current practices. Due to the challenge of having candidates reflect on all 15 edTPA rubrics, this study focuses on the three key rubrics described above – Rubric 3, Rubric 8, and Rubric 12. Chapter 3 describes the decision process for selecting these rubrics in more detail.

Chapter 2: Literature Review

This chapter synthesizes the literature on edTPA and its predecessors, namely, the Performance Assessment for California Teachers (PACT) and the assessment for National Board Certification (NBC) from the National Board for Professional Teaching Standards. This review begins with a summary of how teachers historically have been assessed in the United States and how that history led to the use of performance assessments such as edTPA. A collection of literature on the educativity of performance assessments connecting back to the theory of action in Chapter 1 follows the historical portion of the review.

The next section of the literature review includes ways in which edTPA or PACT scores are used by some teacher preparation programs. Since few studies exist on edTPA, I also included studies on PACT along with a brief justification for the inclusion of PACT research in the review. Some studies examine how PACT or edTPA scores can corroborate or contradict other measures of teacher trainee performance. A second set of studies explore the validity of PACT or edTPA scores by comparing them against other types of data gathered by the teacher preparation program. A third group of studies demonstrate how teacher preparation programs can use edTPA or PACT scores to identify and address ways in which their program could be improved.

The literature review concludes by presenting research exploring positive and negative perspectives of PACT or edTPA from stakeholders such as teacher candidates

and university faculty. It also discusses the growing number of national critics of edTPA. The final section describes how this study addresses some of the gaps in the literature, as well as identifies areas for further research.

Methods and Organization of the Literature Review

I conducted a systematic review of the literature most relevant to questions about the educativity of teacher assessments like edTPA. I compiled literature from online databases such as Google Scholar and ProQuest Dissertations, using such search terms as "edTPA," "PACT," "teacher performance assessments," "National Board Certification." I gathered additional material from colleagues at SCALE and in the teacher education community whom I met through my role as edTPA Director of Local Evaluation at the University of Maryland. For the historical narrative in this chapter, I completed a separate search within online data bases focusing on terms such as "teacher assessment" and "National Teacher Exam." From my initial findings, I used reference lists within articles to find other potential articles to include in my literature review. I also relied on discussion with State U* (pseudonyms are used throughout) faculty who pointed me in the direction of articles or books to begin my research and helped me complete a timeline of teacher assessment practices in the U.S. context.

Since edTPA began in 2010 and became operational in 2013, the number of studies available on it are limited. Studies that examine predecessors of edTPA are therefore included in this portion of the literature review, but most of those reviewed

focus either on PACT or edTPA. I chose to emphasize studies on PACT, as opposed to the other predecessors, for two reasons. First, unlike the other teacher assessments, PACT was created for and used by pre-service teacher candidates rather than in-service teachers. Second, while these assessments appear to have similar structures, PACT is most similar to edTPA in terms of its components and its scoring process. Because edTPA is a modified version of PACT, it is reasonable to use studies focused on PACT in this review. While there are some differences between PACT and edTPA (described later in this literature review), research on PACT can help frame questions about the educativity of edTPA and the best practices for local implementation.

Finally, other studies of the educative or developmental nature of teacher portfolios, particularly studies of the National Board Assessment, share many attributes with this study. All of them included interviews with participants to capture their perceptions or opinions. They also all address changes in perceptions or practice before and after completing a portfolio and/or NBC. Finally, they all share an overall theme that the portfolio or NBC process factored into changes in teachers, whether in perceptions, philosophies, or classroom practice.

Teacher Assessment Prior to edTPA

This section and the following two sub-sections offer a brief historical narrative on teacher assessment and how decisions by policy makers culminated with the creation of edTPA. For nearly 200 years, U.S. policy makers at local, state, and federal

levels have attempted to determine systematically if a person was qualified to serve as a classroom teacher (Shulman, 1986). As early as the mid-19th century, classroom teachers were held to certain standards, as demonstrated in teacher exams that were required to earn the privilege of passing on knowledge to students (Shulman, 1986). Early exams contained questions that focused purely on content knowledge of seemingly random facts, including subject areas such as grammar, arithmetic, and geography (Bridgewater State, 1861; Hoffman, 1981; Shulman, 1986).

In the 1920s and 1930s, during an era of teacher surpluses, some states called for teachers to be assessed more rigorously to determine the “better” teaching candidates. In 1925, Pennsylvania became one of those states, as the Carnegie Foundation supported a study led by William Learned and Ben Wood to examine the relationship between secondary education and higher education in that state (Wilson, 1986). Learned and Wood’s 1938 report on the findings from the Pennsylvania assessment, *The Student and his Knowledge*, revealed that, in some cases, "the prospective teachers in professional courses of study did poorly when compared to the *high school* students who were tested" (Sedlak, 1989, p. 277).

In his role as director of Cooperative Teaching Service (CTS) of the American Council on Education, Wood provided a few districts, including Providence, RI Philadelphia, PA and Cleveland, OH exams that would assist them in the teacher selection process. By 1940, a lack of funding meant that CTS could no longer provide free exams, which lead some larger school districts to form the National Committee on

Teacher Examination (NCTE). The NCTE received funding from the Carnegie Foundation to create, administer, and score a new examination for teachers. As director of CTS, Wood played a large role in the creation of what became the National Teacher Exam (NTE).

The rise of the National Teacher Exam. Created in 1939, the NTE was viewed as a means of legitimizing the hiring process for teachers and to address a national teacher surplus from the previous decade. Policy makers scrutinized the results of the first NTE, administered in 1940 to 4,000 potential teachers, in hopes of making connections between a teacher's score and their preparation for teaching. However, the initial examination of the data by the Cooperative Test Service, one of the organizations funded to help create the NTE exam, did not offer any new revelations on teacher selection.

The NTE found a controversial new use in the 1940s. During this era, African American teachers made approximately 60 percent of the salary of an average white teacher. District officials blamed the salary difference on the quality of the teachers as measured by the NTE, while the National Association for the Advancement of Colored People (NAACP) challenged the salary differential as wage discrimination (Baker, 1985). The NAACP successfully won the 1939 legal case *Mills v (Anne Arundel County, MD) Board of Education*, when the presiding judge found that "no black teacher ...earned as much as any white and ruled that salary differentials were the result

of unconstitutional racial discrimination and not 'differences in professional attainments and proficiency' " (Baker, 1985, p. 51).

During the 1940s, Wood appealed to Southern states about how the NTE exam could be used to legitimize raced-based salary scales, recruiting districts to mandate NTE, stating that salaries and certification levels would be based on candidate scores on the NTE, not on race. According to Baker (1995), Wood told an educator from Georgia that "there are certain advantages in using exams in the certification procedure particularly with respect to a certain crucial problem" (p. 55). As early as 1941, Wood barnstormed through the South, touting how NTE should be used for certification purposes.

Since more money was often spent at white higher education institutions than black higher education institutions on NTE exam preparation, white teachers earned higher scores, higher certification levels, and higher salaries. When lawyers from the NAACP legally challenged how districts used test scores to determine certification and pay scales, judges often ruled against them, stating that the NTE was an objective test and that, as such, it could be "a legitimate measure of teaching ability, although no evidence was presented to demonstrate that standardized tests were a more accurate indicator of competence in the classroom than the degree teachers held or the grades they earned" (Baker, 1995, p. 58). Perhaps ironically, the historic 1954 Supreme Court case *Brown v. Board of Education*, which declared segregated schools unconstitutional, led to sharp increase in the use of the NTE in major Southern school districts in the

later 1950s. At that time, exam scores were then used to "demote or dismiss thousands of African American teachers in desegregated school systems" (Baker, 1995, p. 64).

The rise of portfolios and performance assessments. In the 1970s, emerging research on the NTE demonstrated little correlation between test results and teacher observation ratings by principals or other supervisors (Quirk, Witten, & Steinburg, 1973). In 1982, Education Testing Services (ETS), owner of the NTE, added a section on professionalization to address concerns raised from that research. Policy makers such as Linda Darling-Hammond scoffed at the improvements, noting the section on professionalism contained few questions related to theory or knowledge about teaching practice (Darling-Hammond, 1986). Despite attempts to improve the NTE, policy makers still felt uncertain about the reliability of the assessment to address a teacher's readiness. Education policy makers in California and in Connecticut appeared to respond to the potential unreliability of NTE by creating assessments that focused on teacher practice (Levin, 1984; Wilson, Darling-Hammond, & Berry, 2001; Young, 2002).

In 1986, the Carnegie Forum on Education and the Economy issued the report, *A Nation Prepared*, which advocated for major changes in teacher preparation, including the creation of a national certification for the nation's best teachers (Parker, 1993). These standards, known then and now as the National Board for Professional Teaching Standards (NBPTS), were created in 1987. For six more years, Carnegie continued supporting NBPTS, which, by 1993, had begun the initial iterations of its

national certification assessment. One key difference with this assessment was that it was performance-based, which "was a way to [place] more emphasis on the abilities teachers develop than the hours they spend taking classes" (Darling-Hammond, 1999, p. 14). The assessment for National Board Certification was based on pilot elementary portfolios that were part of the Stanford Teacher Assessment Project. Darling-Hammond (1999) notes that the

> "portfolio continually demanded evidence of how teachers planned and adapted their instruction based on individual as well as collective student needs, teachers expanded the variety of informal as well as formal assessments they used to keep track of learning, paying more attention to how individual students were doing. Teachers also found themselves adjusting their instruction more frequently in response to these assessments" (p. 20).

NBPTS has impacted two other entities – the Interstate New Teacher Assessment and Support Consortium (INTASC) and the National Council for Accreditation of Teacher Education (NCATE). Like NBPTS, INTASC and NCATE created common standards and assessments as a part of teacher licensure and program accreditation. States began to consider ways to incorporate the new INTASC or NCATE standards into preparation for new teachers. In 1986, Connecticut enacted legislation to improve teacher licensure requirements. A key component of the legislation was a two-year induction program called Beginning Educator Support and Training (BEST) that culminated with the completion of a teacher performance

assessment. Rey Pecheone, who worked on aspects of the new assessment for national board certification, led efforts around the creation of the BEST portfolio, which was based on INTASC standards.

Two years after Connecticut, California recognized the value in adopting teacher performance assessments as a part of teacher certification. In 1998, the state passed a bill that attempted to increase the rigor of teacher certification requirements by requiring all teacher candidates to successfully complete a teacher performance assessment (TPA) to obtain a teaching license. California's new regulations helped lead to the creation of a consortium of higher education institutions that created their own assessment, the Performance Assessment of California Teachers (PACT). As a member of the faculty at Stanford University, which was part of the PACT consortium, Darling-Hammond reached out to her colleague Pecheone and asked that he take a year-long sabbatical and join her in working on PACT. The duo was instrumental in the creation of the PACT assessment.

As Pecheone noted in his opening remarks at the 2017 National edTPA Conference, those working on PACT had three goals for the performance assessment. The first goal was that it would incorporate the ideas of Lee Shulman and pedagogical content knowledge, meaning that "subject matter should matter." Second, "rather than focus on the teacher the assessment should focus on the learning." And third, that any assessment should be educative, in that it should help teachers become better educators.

PACT modeled itself after National Board Certification, examining teacher actions and decision making around planning, instruction, and assessment. By 2007, 18 California teacher preparation programs had joined the consortium. One of the key components of PACT was that it was locally administered and locally scored, often by PK-12 educators. Today, PACT is still used by some institutions to meet the state requirement.

In 2010, educators at the Stanford Center for Learning, Equity and Assessment (SCALE), including Darling-Hammond and Pecheone, proposed the adoption of a PACT-like assessment in other states. SCALE partnered with the American Association of Colleges for Teacher Education to pilot the Teacher Performance Assessment (TPA). Two years later, the organizations added a third partner, Evaluation Systems, a group of Pearson, to be the operational partner of what would now be called edTPA. Currently, just over 775 teacher preparation programs (TPP) across 40 states (and Washington, DC) are using edTPA, with 17 of those states connecting the successful completion of edTPA (or another approved teacher performance assessment) to either teacher licensure or teacher certification.

Educative Portfolios and Performance Assessment

In this section, I review a small group of studies that address questions about the educativity of teacher assessments like edTPA. As mentioned in Chapter 1, the educativity theory of action stems from a small sample of studies that demonstrated the

educative nature of the National Board Certification Examination. Prior to National Board Certification (NBC), a few scholars examined the potential of teacher portfolios being educative in the sense that their completion impacted future practice. As an example, Athanases (1994) studied 24 third-grade teachers who spent an entire year creating a teaching portfolio focused on their strategies for teaching literacy. He found that teachers self-reported using more varied teaching strategies during and after completing the portfolio. They also reported feeling they had become more reflective about their own teaching approach.

Tracz, Sienty, Todorov, Snyder, Takashima, Pensabene, Olsen, Pauls, & Sork, (1995) were among the first to study the potential educative impact of the NBC assessment. With a sample size of 48 teachers across seven states, the authors collected both quantitative and qualitative data from participants to examine whether completing the National Board process impacted their practice. Specifically, the researchers used a quantitative survey instrument that included 37-items that assessed six dimensions of teaching. Participants took this both prior to and after completing the NBC process. Qualitative data included participant personal journals filled out during the assessment process as well as interviews. Tracz, et. al (1995) found that most participants felt that going through the NBC process had improved their teaching. They also asserted that the NBC process provided teachers space to reflect on their teaching which they rarely had done before due to the demands of their normal schedule.

While Tracz and colleagues demonstrated how completing NBC could impact a teacher's future practice, Steeley (2003) found that, in some cases, teachers who completed NBC talked about changing practices but did not implement these changes. Steeley's study examined the perceptions and teaching strategies of three kindergarten teachers who completed NBC using in-depth classroom observations and teacher interviews. The fact that in some instances teachers passed NBC but then afterwards were observed using low-scoring NBC practices led Steeley to posit that that NBC had too many loopholes. He maintained that some teachers said the right things to earn certification, but then did not put those teaching philosophies into action.

Sato, Darling-Hammond and Wei (2008) provided further evidence about the educative nature of the NBC and did so by following teachers over a longer period after completing the assessment than did either Steely (2003) and Tracz et al (1995). Their study, a three-year evaluation on the impact of National Board Certification, followed nine math and science teachers who had pursued National Board Certification along with seven similar teachers who did not pursue NBC. It compared the teachers over time in their use of different formative assessment strategies. Despite a relatively small sample size, the authors collected large amounts of data, including video samples of teaching, lesson plans, student work samples, and participant interviews. The study demonstrated that those who had completed NBC showed the most gains in terms of the use of formative assessment skills and that, in most cases, participants attributed this phenomenon to completing the NBC process. Teachers that did not do NBC but

also showed gains revealed they had participated in professional development opportunities that shared components of NBC. The authors concluded that "teachers' classroom teaching practices can be influenced by professional activities that allow them the opportunity to closely examine their own practice" (Sato, Darling-Hammond and Wei, 2008, p. 694).

edTPA and PACT

As detailed in the historical section, PACT lead to the TPA which, in turn, became edTPA. Hence, in many ways, edTPA could be viewed as a revised version of PACT. The two assessments have similar structures (i.e., components for planning, instruction, and assessment), rubrics, and scoring. There are some modest differences, for example, PACT includes 12 rubrics while the edTPA for secondary mathematics (and for most other subjects) contains 15 rubrics. The rubrics for PACT use four-point scales whereas those for edTPA use five-point scales.

The most notable difference between PACT and edTPA pertains to how they are assessed. edTPA can be assessed two different ways - nationally and locally. National scoring is administered by Pearson. Scorers complete up to 20 hours of online training and must independently calibrate their scores on two portfolios before being allowed to assess live candidate work (SCALE, 2015). Official scorers can consist of current or retired PK-12 educators, mentor teachers, candidate supervisors, or university faculty from across the county. Some states that do not require edTPA for

teacher certification use local evaluation, a similar, but less rigorous process. Local evaluators usually include university faculty or PK-12 teachers from a university's local area. In most cases, the training for local evaluators is not as exhaustive as that of national scorers.

Since PACT is only implemented in California, there is no centralized scoring. Individual teacher preparation programs use their own scorers to assess their teacher candidates, with these local scorers being trained by members of each teacher preparation program. To attempt to make the training more centralized, a two-day, subject-specific training is offered to Lead Trainers, often one from each teacher preparation program (www.pacttpa.org, 2014). As with edTPA national scoring, scorer training for PACT does include calibration.

PACT or edTPA Completion and Teacher Readiness and Effectiveness

This section includes approximately 10 studies that have included PACT or edTPA scores to address the assessment's potential connection to gains in student achievement, its validity in measuring teacher readiness of pre-service teachers, and its ability to demonstrate program success. Despite some apparent deficiencies (e.g., small sample sizes, local evaluation), the studies establish the relevance of PACT or edTPA scores in teacher preparation.

PACT/edTPA completion and teacher effectiveness. A number of scholars have examined the value-added (i.e., growth attributed to teachers based on student

test-scores) of having an NBC teacher (Cantrell, Fullerton, Kane, & Staiger, 2008, Goldhaber & Anthony, 2007, Vandevoort, Amrein-Beardsley & Berliner, 2004; Similarly, other researchers have studied the value added of PACT on improving student achievement (Newton, 2010; Newton, Darling-Hammond and Wei, 2013). Collectively, there is evidence that the completion of a teacher assessment like edTPA can improve teacher effectiveness and this in turn suggests these portfolios are educative.

SCALE's Steven Newton (2010) studied the potential connection between teachers' PACT and value-added scores, collecting PACT scores from 14 teachers that ranged between 24 and 44 (out of 44) and test data of 259 students in grades 3-6. Based on a regression analysis, Newton (2010) found that "for each point a teacher scored on PACT (scored on a 44-point scale), her students averaged a gain of about one percentile per year compared with similar students" (p. 12). In other words, students in a class whose teacher scored the highest on PACT (44) would, on average, score 20% better than students in a class whose teacher received the lowest possible. Newton acknowledged that the number of candidates in his study might have been too small to produce robust and representative results; however, the study revealed the potential of PACT completion to improve teacher effectiveness.

Newton, Darling-Hammond, and Wei (2013) also examined the link between PACT scores and teacher effectiveness. They linked PACT candidate scores between 2006-2008 to student achievement data from three school districts to determine if

"certain sub-scores of the PACT measuring different dimensions of teaching are more predictive of teacher effectiveness than others" (p. 183). They found that a candidate's overall scores on PACT "are significant predictors of student achievement gains in both English language arts and mathematics" (p. 190). They also reported that the assessment component of the PACT portfolio was the strongest predictor of teacher effectiveness in English language arts and mathematics. The authors asserted that this relationship made sense given that, as part of the PACT assessment task, candidates are asked to analyze student work and use this analysis to revise future instruction.

Singer-Gabella, Benner, Wishart, and Miller (2013) examined the relationship between candidate edTPA scores and two different measures of teacher effectiveness in Tennessee. The first measure, the Tennessee Valued Added Assessment System (TVAAS), is connected to student achievement on standardized tests, measuring student growth on a year to year basis. Using the 12-rubric field sample version of the TPA, the researchers assigned a score of 40 as "passing." The data showed that only 23% of candidates who did not earn a 40 earned a 4 or a 5 (out of 5) on the TVASS, while 62% of those that scored above a 40 earned a 4 or 5 on the TVASS. Such data loosely demonstrates how a candidate's scores on edTPA could be predictors of increases in student achievement (Singer-Gabella, et al., 2013).

The authors also examined relationships between edTPA scores and scores on different components of the Tennessee Educator Acceleration Model (TEAM), a teacher observation protocol consisting of various dimensions such as planning,

instruction, or classroom environment. Like edTPA rubrics, TEAM rubrics are also scaled 1-5. This portion of the study used data from 29 first year teachers, comparing their 2012 edTPA scores as teacher candidates with their 2012-13 TEAM scores as first year teachers. Singer-Gabella, et. al (2013) found some moderate correlation between four edTPA rubrics and seven TEAM rubrics, demonstrating a potential link between edTPA and in-service teacher observation tools.

Comparing PACT and edTPA performance with other outcomes. This section examines three studies that compared the outcomes on PACT/edTPA with other measures collected on teacher candidates during their teacher training. Overall, these studies demonstrated that a candidate's PACT/edTPA score aligns with a supervisor's findings as seen in classroom observations, meaning that edTPA or PACT could be an appropriate representation of a candidate's overall performance as a student teacher. However, the authors also warn that multiple measures of a candidate's performance, including scores on a performance assessment and scores on observations, should be used to determine a candidate's readiness to teach.

Chung (2005) compared two groups of teacher candidates, four of whom completed PACT and four control candidates who did not complete the assessment. Analyzing PACT scores, candidate survey data, supervisor evaluations of candidate performance in the field, as well as case studies of the candidates, Chung used a comparative case study and found that candidates who completed PACT felt they grew pedagogically in their years of teaching, demonstrating that PACT could be viewed as

an educative assessment. Based on her results, Chung concluded that "performance assessments like [PACT] can serve as an important learning tool to promote beginning teachers' learning of expert teaching practices such as using evidence of student learning to guide instructional decisions and reflecting on teaching through the lens of student learning by providing experiences with these skills" (p. 11-12). However, Chung cautioned that program implementation affected candidate perceptions on the role PACT played in impacting teacher candidate pedagogical practices. This finding hints at how policy makers must also consider a program's stance on assessments like PACT or edTPA when examining their educativity.

Pecheone and Chung (2006) found a link between PACT and supervisor ratings after conducting two separate studies using data from different PACT pilot years (2002-2003, 2003-2004). In the first study, the authors asked evaluators who scored PACT assessments to assign each portfolio a holistic rating that was unrelated to the scores on each rubric. The holistic rating was on a scale of 1-4, with a 1 meaning the candidate should not be given a teaching credential and 4 evidencing a strong recommendation to receive a credential. Pecheone and Chung (2006) concluded that there was a "strong agreement between the analytic scoring of the teaching event and a holistic judgment about whether a candidate should receive a teaching credential" (p. 31). While the two scores were not independent of one another (the same body of evidence was evaluated by the same scorer), the results demonstrated that "the domains of teaching skill captured in the rubrics are valued by readers as components of minimally competent

teaching practice that would be needed to qualify for a teaching credential" (p. 31). As part of the second study, Pecheone and Chung (2006) asked supervisors sand faculty members if they agreed or disagreed with the scores their candidates received on the PACT assessment. Out of 152 responses, nearly 90% of the faculty stated they agreed with nearly all the scores their candidates received, demonstrating that PACT was "a valid representation of candidate teaching skills as evaluated by faculty/supervisors who were most familiar with the students' teaching skills" (p. 31)

Sandholz and Shea (2012) also used university supervisors in their study, asking them to predict PACT scores that candidates would receive and then comparing the prediction with the actual candidate scores. Fifty-four supervisors trained as PACT scorers were asked to predict PACT scores for each rubric for the teacher candidates they observed. Supervisors completed the predictions after three teacher observations. A total of 337 candidates were involved over a two-year period (2007-2009). To avoid conflicts of interest, supervisors did not assess their own candidate's official PACT. The authors found that 57% of the predictions were within 5 points of the candidate actual score. Similarly, supervisors were able to accurately predict about 50% of the time the exact score their candidates would have on any given rubric (p. 45).

Sandholz and Shea (2012) also looked at a subset of the PACT portfolios, namely those of the higher-performing and lower-performing candidates, to determine if the scores for those two groups were easier to predict than others. With the higher- and lower-performing candidates, they predicted that "supervisors, who observe and

evaluate candidates in the classroom, would be in prime position to predict which pre-service teachers would perform particularly poorly or particularly well on a teacher performance assessment" (p. 46). Instead, the data showed the opposite: supervisors under-predicted the PACT scores of most of the candidates who had performed well in observations and over-predicted the PACT scores of the candidates in the low performing in observations. While Sandholz and Shea (2012) do not dismiss the value of a teacher performance assessment, they emphasize that "multiple sources of evidence about a candidate stand to contribute to a more thorough assessment of [a candidate's] effectiveness" (p. 48).

Using edTPA/PACT to examine preparation programs. A third group of studies used PACT/edTPA scores of program participants to examine the effectiveness of individual teacher preparation programs. These studies demonstrated how edTPA or PACT scores could either serve to validate an existing program's structure or suggest ways the preparation program could improve.

Susan Lin (2012) examined how one teacher preparation program that required its candidates to complete may have changed novice teachers' perceptions on planning, instruction, or teaching practices. Lin collected qualitative data from ten candidates one month after they completed their edTPA. Lin hypothesized that, as with teachers who completed PACT or the assessment for National Board Certification, candidates who completed edTPA would also express changes in how they perceived good teaching. Lin reported that all 10 candidates saw something valuable in completing edTPA and

that the portfolio reinforced what they had learned in their teacher preparation programs. For example, candidates asserted the importance of considering their audience when creating their lessons as well as offering students the opportunity to share their voice.[3] Lin (2012) wrote that one candidate "came to the realization that teaching well means more than having a superb lesson plan…[the teacher] also needs to know how [the] students will react to certain lessons and be sure not to marginalize any students" (p. 11). In terms of reflection, teacher candidates described how the TPA offered them the opportunity for deeper reflection over time (as opposed to brief reflection during a debrief with a university supervisor after a lesson). This study supports the notion edTPA is as an educative tool for teachers, in particular by reinforcing the notion that good teaching is student-centered.

Ellen Dobson (2012) hypothesized that undergraduates with time in early field placements would score higher on TPA rubrics than students in one-year Master of Teaching (MAT) programs which did not include early field experiences. Dobson examined the scores of 149 candidates (21 MAT, 128 UG) and, contrary to what she predicted, found that the MAT program students received higher scores on 11 of the 12

[3] It is important to note that the state of Washington has its own version of edTPA, containing three extra rubrics that focus on student voice. Thus, it is somewhat understandable that candidates completing this edTPA would come away with the notion of the importance of student voice.

TPA rubrics than the undergraduate students. Because teacher preparation programs include multiple variables (i.e. time within the internship, quality of student-teaching placements, support for TPA in coursework), it is plausible that early field experiences could increase TPA scores, but in this case the early field experience may have been overshadowed by other factors. Studies such as Dobson's demonstrate how the educativity of edTPA and the impact of the assessment on teachers, either during or after their pre-service time, might be skewed by other programmatic factors unrelated to the assessment itself.

Sharon Judge (2014) used edTPA data to demonstrate the readiness of the candidates leaving her university's residency program as well as the effectiveness of the program to promote student-centered teaching practices. Ten candidates completed the edTPA, which was then scored by two university faculty who had been trained to nationally score the assessment. Judge (2014) found that overall, the average score on the rubrics was a 3.00, which, as previously noted, is the score that represents a candidate is ready to teach.

None of the three studies reviewed in this section demonstrate the effectiveness of edTPA in predicting a candidate's readiness to teach. As promised, they show that edTPA scores can be used to evaluate teacher preparation programs – either demonstrating successes or the need for program improvement. More important for this study, two of the three studies suggest that edTPA completion impacts a teacher's view of good (i.e., student-centered) teaching.

How PACT or edTPA are Perceived by Stakeholders

A number of scholars have begun to research student, faculty, and institutional perceptions of PACT or edTPA, in particular, as these assessments have been widely adopted (Baptiste, 2012; Hobbs, 2015; Huston., 2015; Langlie, 2015; Lin, 2015). This research is important because the way an institution portrays the assessment at the pre-service level can influence how new teachers perceive its educativity. If faculty view PACT or edTPA as a tool for growth and share this perspective with students, then it seems possible that the students will also view edTPA as educative. On the other hand, if such stakeholders only discuss teacher performance assessments as a state mandate that must be passed, candidates may not view them as potential tools for growth in their teaching careers.

It seems important to add that all but one of the studies reviewed in this section were doctoral dissertations. Most were qualitative studies that included data from individual candidate interviews, focus group interviews, or classroom observations. The next two sections of this literature review examine how nearly all the studies shared both positive and negative aspects of student experiences with teacher evaluations like edTPA.

Positive perspectives and implications for educativity. When discussing their perceptions of edTPA, participants frequently commented on the positive impact of having to videotape a lesson they taught and then reflecting on their videotaped instruction (Baptiste, 2012; Huston, 2015; Hobbs, 2015; Langlie, 2015; Lin, 2015;

Okhremtchouk, I., Seiki, S., Gilliland, B., Ateh, C., Wallace, M., & Kato, A, 2009). Even candidates who complained that the video component of edTPA felt a bit contrived because they felt their video may not have represented their typical classroom setting believed that watching video of themselves benefitted their growth as an educator (Langlie, 2015). One participant in Huston's (2015) study summed up the view of many edTPA completers when she stated, "[t]he biggest thing that I have gotten out of student teaching is the videotape. Right when I saw the videotape I learned how to fix my teaching and I don't think that I would have done that without the videotape" (p. 75).

Another common theme in studies of stakeholder perceptions of edTPA was how completion of the assessment encouraged candidates to reflect on their teaching in a way they may not have previously experienced or would not have otherwise. Some candidates spoke positively about how the required edTPA commentaries forced them to stop and think about their teaching decisions (Baptiste, 2012, Hobbs, 2015; Lin, 2015). Candidates completing PACT "noticed that they became more aware of their own actions, their students' behaviors and ways they could better plan their lessons and assess their students to address state standards" (Okhremtchouk, et al., 2009, 57). In terms of educativity, this suggests that candidates could build on practices valorized in the PACT or edTPA assessments and apply them as full-time teachers.

The studies revealed other positive perspectives of completing either PACT or edTPA, for example, as an aid in applying for jobs and a means to facilitate cooperation

among teacher candidates. Hobbs (2015) interviewed two candidates after they had completed interviews for teaching positions. Both of those candidates said completing edTPA helped them respond to questions posed during the job interview process. In Lin's (2015) study, many participants commented that sharing the common experience of edTPA encouraged more collaboration among candidates. A major reason for the collaboration was due to the university's edTPA support, which included candidate seminars and writing days, where candidates would come together in a room and discuss interpretations of various edTPA prompts.

Candidate support was a topic that drew mixed reviews in the sample of studies. Some candidates noted how their institutions provided ample support to complete either PACT or edTPA (Hobbs, 2015, Lin, 2015). On the other hand, other candidates felt that the lack of support was a criticism of the assessment process. (Hobbs, 2015). Some of the mixed messages concerning candidate support may have stemmed from a misunderstanding of the SCALE policies around how much or what type of help candidates could receive on their edTPA. They also point to the role context plays in the candidate's view on the assessment as a hole or its impact as an educative assessment.

Candidate critiques relevant to educativity. While some candidates saw components of edTPA as being educative, many other candidates failed to see edTPA or PACT as impacting their future practice. These candidates offered concerns or critiques related to the enormity of the performance assessment, as well as the unknown

aspect of who would assess their portfolio. Such critiques appear to view the assessment as a requirement for certification as opposed to an opportunity for growth.

One common criticism from candidates revolves around the edTPA handbook. In some cases, candidates were overwhelmed by the document's size (some handbooks can be up to 70 pages) in addition to a lack of familiarity with some of the terms (especially those terms related to academic language) (Huston, 2015; Hobbs, 2015; Langlie, 2015). Candidates felt edTPA used terminology that, in some cases, did not align with the language used within the teacher preparation program (Hobbs, 2015). Other candidates were frustrated with the "wordiness and the length of the prompts," noting that much of the edTPA felt redundant and repetitive (Langlie, 2015, p. 61). The repetitiveness theme emerged in multiple studies, as candidates felt as that they were answering the same questions multiple times (Huston, 2015, Lin, 2015, Langlie, 2015).

For some candidates, the enormity of the assessment took time and attention away from other aspects of their teacher preparation program, such as student teaching or university class work. Candidates felt stressed by the various tasks involved within PACT or edTPA in addition to having to complete their duties related to student teaching. Some candidates felt they could not focus as much attention on their students because they were focused on completing PACT or edTPA. (Okhremtchouk, et al., 2009; Hobbs, 2015; Huston, 2015; Lin, 2015).

More than one study described how candidates felt anxiety about not knowing who would be assessing their portfolio (Hobbs, 2015; Huston, 2015). The next section,

on national concerns around edTPA, notes that some policymakers are uncomfortable that scorers unfamiliar with the teacher candidates, their school, or their institution could control whether a teacher candidate receives his or her certification (this scenario would only occur in states where passing edTPA is connected to teacher certification). Even in situations where edTPA was rather low stakes (i.e. the portfolio was nationally scored, but candidates did not have to meet a minimum passing score), candidates felt pressure to answer questions in a certain manner. Huston (2015) noted that two participants in his study "admitted to tailoring their [commentary] answers based on the concept of audience, and that their answers did not necessarily reflect what they might consider as best practice" (p. 107).

Finally, candidates shared mixed feelings about the amount of support they had received from their university instructors, their cooperating teacher, or their university supervisor. Candidate support was a variable that greatly impacted a candidate's perception of either PACT or edTPA. In one study on PACT, "participants most pleased with the process felt supported by their supervisor and their program. Others expressed concerns that their supervisors were unable or unwilling to help them, and their resident teachers did not know or understand what PACT was." (Okhremtchouk, et al., 2009, p.58). Langlie (2015) also maintained that participants in her study had little support around edTPA and that the lack of support impacted participants' perspectives on the assessment. Langlie advocated for having "edTPA constructs

woven throughout the curriculum [to] ensure that each teacher candidate has had appropriate exposure and preparation for edTPA" (p. 101).

It is important to note that many of the reviewed studies spoke with candidates that were either piloting edTPA at their institution or were one of the first cohorts to complete edTPA (Baptiste, 2012; Hobbs, 2015; Huston, 2015; Langlie, 2015). This does not mean that their critiques are less valid, although some of them focus on the implementation of the assessment rather than the assessment itself. The studies often offer suggestions for addressing these critiques, but there is no follow-up on if or how particular institutions or SCALE addressed the concerns.

National critics of edTPA. In addition to critiques of edTPA from candidates, a somewhat vocal opposition against the use of the assessment has risen over the past few years. Some question whether edTPA can truly capture a future teacher's effectiveness since it does not consider important issues such as whether a candidate has the proper maturity and disposition to be a teacher. Others maintain that preparing for the edTPA distracts faculty and students from completing other important aspects of their teacher preparation programs. Still others suggest that allowing a corporation such as Pearson to play a role in determining who is qualified to be a teacher is inappropriate and outweighs any other potential positive attributes of the assessment. Many of these critics stemmed from problems in one of the earliest adopters of edTPA, New York.

For example, Sarah Hochstetler (2014) used the edTPA website (http://edtpa.aacte.org) to gather information about the assessment to help prepare her students who would be completing edTPA. In her study, she criticizes the FAQ section of the website and its lack of attention to teacher behavior (p. 11). This concern leads her to conclude that edTPA does not address teacher dispositions, such as teacher professionalism, which, her research finds, are an important determinant of a candidate's readiness to teach. While Hochstetler used some of the public information on edTPA, given that she was a faculty member at an institution piloting the assessment (she notes that edTPA would be mandatory in Illinois by 2015), she should have been able to access the Secondary English Handbook, where Task II, Instruction, does make some connections to teacher behavior in the classroom. Furthermore, Hochstetler failed to include any discussion with candidates or scorers who would have more experience with the assessment and thus could have, or not have, insights on the connections to dispositions.

Barbara Madeloni and Julie Gorlewski (2013) call edTPA the "Wrong answer to the wrong question" in a *Rethinking Schools* piece. The authors' essay discusses numerous reasons why edTPA should not be used as an assessment for pre-service teachers and includes anecdotes from students who completed the assessment and university faculty who prepared candidates for the assessment but felt edTPA hindered their ability to prepare teachers for the classroom. Alan Singer (2014) has used social media to share his opposition to the assessment. His post, "SCALE and edTPA fire

back: Me Thinks they doth Protest too much," also relies on multiple comments from students, strung together to present an argument against the effectiveness of the assessment to measure a candidate's readiness for the classroom.

Maldeloni and Singer are two of many scholars who have expressed concern about the corporatization of teacher preparation, and the connection between edTPA and Pearson (Dover, Schultz, Smith & Duggan, 2015; Jordan & Hawley, 2016). While Andrea Whittaker, Director of Teacher Performance Assessment at SCALE and one of the leading experts on edTPA, has constantly delineated the roles that SCALE and Pearson play in edTPA (such as SCALE owns the intellectual rights to edTPA and Pearson was a necessary partner to expand edTPA at the national level), many critics are unsatisfied with this response (Stillman, Ragusa & Whittaker, 2015; Jordan & Hawley, 2016). As noted in the section on candidate perceptions, some candidates (and faculty members) distrust external scorers rendering judgment on their teaching ability, particularly when the candidates are from a state that requires edTPA for teacher certification.

As Jordan and Hawley (2016) noted, " The problem that many students now have with edTPA is the same problem people have with most major corporations - we simply do not trust them" (p. 1). While SCALE states that the official scoring pool consists of nearly half of teachers in K-12 education and half in higher education, some are still concerned about the qualifications and the confidence of the scorers. Greenblat and O'Hara (2015), along with other scholars, have expressed concern that making

edTPA mandatory for teacher certification lessens the role of teacher observations in a teacher preparation program (Dover, Schultz, Smith & Duggan, 2015). They write, "Allowing per-diem scorers to be the gatekeepers to the profession depersonalizes the relationship between teacher candidate and students, cooperating teachers, field supervisors and professors" (p. 62). These dissenters against edTPA seemingly would view any type of external assessment of teacher readiness as an attack on their role in the preparation process. However, while assessments such as Praxis have existed in states for years (seemingly without the same opposition), the movement against edTPA has gained a steady voice.

Another concern that has been raised by many scholars is the rapid implementation of edTPA in some states, which at times led to confusion or misinterpretation of how edTPA could be completed. One of the main areas of tension around implementation involved the amount of support candidates could gain from professors, cooperating teachers, or supervisors on completing edTPA. Meuwissen and Choppin (2015) studied candidates in New York and Washington State that completed edTPA the first year it was consequential in these states. They found that the candidates often resulted to secret social media groups (such as private Facebook groups) to support one another as they were told, by faculty and others, that faculty could not support them on the assessment. In actuality, this is not the case. SCALE created and has revised documents yearly on appropriate candidate support, which notes that faculty cannot directly edit a candidate's work but can certainly provide formative

experiences to prepare for the edTPA as well as provide general comments on a candidate's actual sample (SCALE, 2015).

In 2017, two books contained multiple chapters critical of edTPA. The first book, *Policy, Professionalization, Privatization and Performance Assessments*, raised concerns around the role of edTPA in the teacher certification process as well as how edTPA implementation had a negative impact on various programs (Gurl, Caraballo, Grey, Gunn, Gerwin & Bembenutty, 2016). Three of the chapters examine edTPA in relation to the content areas of secondary English, secondary math and secondary social studies.

In the chapter on secondary math, the authors acknowledge that edTPA provides a consistent message about teaching pedagogy, one that aligned with the National Council of Teachers of Mathematics (NCTM) expectations that lessons should focus on conceptual understanding, procedural fluency and problem solving (Gurl, et. al., 2017). The authors also note that the mathematics education community in the past has advocated for performance assessments and that "the edTPA in its intent and content is consistent with what the mathematics education community has envisioned for teacher assessment as written, with its emphasis on deepening student understanding, procedural fluency and problem-solving skills" (Gurl, et. al., 2017, p. 62).

At the same time, Gurl and her colleagues raise some concerns about edTPA, particularly its implementation in schools within New York and the role that

cooperating teachers are expected to play in supporting teacher candidates. The authors state that cooperating teachers in New York felt pressured to have their students succeed on standardized tests, which are often completed in the spring. Because of this, teachers working with teacher candidates were hesitant to relinquish control of their classes during the spring. On the other hand, spring could be an ideal time for teacher candidates to complete their edTPA, given they would have had the fall to possibly partake in formative edTPA-like assessments or at the very least would have received more support on completing the assignment. They add that while written communication from the state has been shared with schools, "sharing this in discussions with school personnel is generally at the bottom of a principal's very busy agenda and rarely, if ever, trickles down to the teachers who serve as cooperating teachers" (Gurl, et. al, 2017, 61). The authors' main concern about edTPA communication underscores the implementation gap that often occurs when policies are implemented top down (McLaughlin, 1987).

The second 2017 book on edTPA, *Teacher Performance Assessment an Accountability Reforms*, also discusses implementation issues around edTPA but is much more critical of the role of teacher performance assessments in general. For example, in one chapter, Dover and Schultz posed as students seeking support on their edTPA from edTPA tutors and write how the high stakes nature of edTPA has led to private tutors seeking to take advantage of students desperate to successfully pass edTPA (Schultz & Dover, 2017). The authors add that edTPA has impacted their

university's courses, as well as faculty member time and resources. Another chapter from Ressler, King and Nelson, examines the early implementation of edTPA in Illinois, including interviews from teacher candidates who saw edTPA as a disruption to the student teaching process (Ressler, King, & Nelson, 2017).

Much of the literature criticizing the implementation of edTPA stems from interviews with teacher candidates or alumni who completed edTPA in its earliest iterations. In some ways, criticisms of any policy would be expected in the policy's first few years of implementation, as programs need time to adapt and make changes. Some scholars feel that the changes that programs have had to make to improve candidate preparation on edTPA have come at the critical cost of sacrificing other aspects that are central to the program's core values, such as social justice or culturally relevant pedagogy (Ledwell & Oyler, 2016; Soslau, Kotch-Jester & Jorlin, A, 2015).

Additionally, much of the criticism may stem from the local implementation process as opposed to the assessment itself. In the two books published in 2017, over two thirds of the authors came from institutions in New York. In 2014, New York became the first state to mandate edTPA as a requirement tied to teacher certification, with a passing score of 41 required for 15-rubric portfolios. Over the past three years, there has been much debate in the state on the role of edTPA. In September 2017, the New York Board of Regents passed new regulations lowing the required passing score to 38 through 2020, with the score moving to 40 by 2022. The scaled up passing score is in line with how other states have implemented the use of scores on the assessment.

The Board of Regents also called for the creation of an option for candidates that fall within two points of a passing score to still be eligible for certification without retaking their edTPA (Loewus, 2017). This aims to address the concern that the high stakes nature of edTPA may have kept some potentially strong candidates from achieving certification.

Need for More Research

This literature review reveals the need for research on the educative nature of edTPA that follows in the footsteps of previous studies on other portfolios, specifically National Board Certification. Overall, the body of literature around portfolios and NBC has shown promise in such assessments serving as tools for professional development and growth. The time is right to begin to examine this aspect of edTPA.

Additionally, more literature is needed to address the multiple opinions that exist about the role edTPA plays in teacher preparation. Some scholars shared positive aspects of the assessment while others shared concerns about its repetitiveness as well as its connection to Pearson. While SCALE has conducted yearly reports on the validity and reliability of national scoring, research has not yet been conducted on how national edTPA scores, or even edTPA local evaluation results, can be used to predict ratings on district level teacher observations or how they correlate to student achievement data in a teacher's first or second year of teaching (SCALE, 2015; SCALE, 2016; Youngs & Grissom, 2016). One potential outcome of the assessment is that school districts will

view edTPA in terms of a value-added model, interpreting that a higher overall score automatically correlates to a stronger teacher. This could lead districts to only hire candidates that reach certain scores as opposed to considering edTPA as one measure of potential teacher effectiveness.

Another missing voice from the literature is the perception of active teachers in the years after they have completed edTPA on how the assessment may or may not impact their current work. Much of the literature on student perceptions of either edTPA or PACT interviews candidates shortly after they have completed the assessment and before they have entered the field as full-time teachers. While this perspective is valuable in terms of the assessment's role in teacher preparation, it could be somewhat biased, as a teacher candidate's emotions about the rigorous process may overwhelm their beliefs that the assessment was helpful to their teaching career. Furthermore, such studies focus on the immediate educative role of edTPA (i.e. Did candidates learn something new about their teaching from completing edTPA?) but they do not examine if those lessons learned translated back into the classroom.

This study aims to fill this void by seeing what practicing teachers, some of whom are five or six years removed from completing their edTPA, say about the assessment and if or how completing it has impacted their current practices. While some may argue the lack of quantitative data in this study makes it less meaningful in measuring the impact of edTPA on teacher performance, its focus on teacher perceptions around the assessment directly addresses how teachers believe edTPA has

impacted their practice. Furthermore, the study is one of the first studies to have participants examine their own edTPA. This process helps refresh participant memories of the assessment and potentially enables them to see connections to their current work more clearly than if they had not had a chance to view their original work.

Chapter 3 – Methods

This is a qualitative study that examines whether practicing secondary mathematics teachers view completing edTPA as having been educative and, related, whether they see connections between high-scoring edTPA practices and their current teaching practices. edTPA is a relatively new teacher performance assessment and, while the number of institutions and states using it is increasing, researchers know little about how practicing teachers perceive the assessment and its influence on their development as teachers. While some studies have included pre-service teacher perceptions of edTPA (Baptiste, 2012, Hobs, 2015; Huston., 2015; Langlie, 2015; Lin, 2015;) and others have addressed the question, "Does PACT (or edTPA) measure a candidate's readiness for the classroom?" (Singer-Gabella, Benner & Miller, 2013; Newton, 2010; Darling-Hammond, Newton & Wei, 2013), this study addresses the potential educative impact of edTPA on teachers' pedagogical practices once they have begun paid teaching.

Methodology

Researchers often use qualitative research designs to learn how participants in a setting "experience [this setting or practice], the meanings they put into it, and how they interpret what they experience" (Richards & Morse, 2013, p. 28). Qualitative research focuses on people's experiences, practices, and the meanings they ascribe to

phenomena. Hatch (2002) notes that "qualitative studies try to capture the perspectives that actors use as a basis for their actions" (p. 7).

In addition to using a qualitative design, this study approaches questions about the educativity of edTPA from a constructivist point of view. Crotty (1998) notes that constructivists posit "that meanings are constructed by human beings as they engage with the world which they are interpreting" (p. 48). Consistent with this, I assume that study participants construct their own meanings when articulating their perspectives on the educavity of edTPA and how it may or may not connect to their current practice. Additionally, as a constructivist researcher, I acknowledge that I played a role in the construction of the study results about the educativity of edTPA. For example, I synthesized and represented the literature in Chapter 2 that informed my perspective on edTPA and the design of this study. As part of this, I also designed, conducted, analyzed, and wrote results about the interviews.

While similar studies on teacher performance assessments have used different methodologies, such as case study methodologies (Sato, Wei & Darling-Hammond, 2008), this study uses an interview methodology. This methodology is appropriate because it focuses, in part, on past events "that are impossible to replicate" (Merriam, 1988, p. 72). Related, because the assertions and connections participants make are often hidden from direct observation, interview techniques offer tools for bringing them to the surface. The assumption was that, through interviews, participant perspectives and reflections on completing edTPA and whether or not their current teaching is

consistent with the student-centered practices valorized by the assessment could be identified and analyzed.

Setting. All of the participants in this study graduated between 2011 and 2015 from the secondary mathematics education program at State U, a Research I university in a Mid-Atlantic state. State U first piloted edTPA in 2010 with a group of four secondary English candidates. Every year since then, State U has added cohorts of students who had to complete edTPA. It piloted with secondary mathematics candidates in 2011. Beginning in the Fall of 2014, all teacher candidates at State U have been required complete edTPA as a program requirement. While State U has been actively involved in edTPA since the assessment was initially piloted in 2010, it is not located in a state in which candidates must successfully complete edTPA as a licensure requirement.

Participants. At State U, candidates complete the requirements for secondary mathematics certification through two different pathways, the bachelor program (BS) or a one-year graduate-level Masters plus Certification program (MA). In addition to coursework in mathematics and teaching methods classes, both tracks have a student-teaching internship; however. the MA candidates intern in clinical settings for nearly twice as long as the BS candidates. Specifically, the MA candidates intern for 180 days whereas the BS candidates intern for 100 days as part of their programs.

Both BS and MA candidates follow a similar trajectory during their student-teaching internship, beginning with classroom observations, followed by lead teaching

in one course, then lead teaching in at least three courses (some BS candidates will lead teach up to five courses), then reducing their teaching load and eventually returning to classroom observation as the internship ends. BS and MA candidates are observed weekly by their classroom mentor teacher as well as every two weeks by their university supervisor. MA candidates are observed throughout the course of their internship while BS candidates are only observed in the spring semester. Both MA and BA candidates complete edTPA during the spring of their internship. To date, a total of 60 secondary mathematics candidates (20 BA and 40 MA) have completed edTPA at State U. The sample size for this study (20 participants) reflects about one-third of total completers.

While the BS and MA pathways differ in some ways, both provide similar coursework and similar support for edTPA completion. Importantly, candidates in both pathways take a series of three mathematics teaching methods courses emphasizing student-centered approaches to teaching mathematics. In particular, in these courses students are exposed to ideas about teaching mathematics for understanding and the use of formative assessment to individualize and improve students' mathematics outcomes. Given these similarities, as well as the opportunity to increase the number of participants, I included both BS and MA alumni in the study.

Participant recruiting. To reduce potential bias in participant selection, in particular because I worked closely with most of them during their pre-service preparation, I assigned a number to each graduate of the two secondary math programs

from the 2011 to 2014. Then, I used a random-number generator to determine the order in which I would email prospective participants to solicit their study participation. If a prospective participant's email address could not be located (through either the researcher's personal records or a quick internet search for their school or where they may be teaching), they were eliminated from the pool. In addition, four State U alumni who were no longer teaching and two who participated in the pilot study (described below) were eliminated from the pool.

In total, 25 email requests were sent which resulted in 20 teachers agreeing to participate in the study. Four prospective participants did not respond to the email and one declined to participate in the study. While there was a potential that those who chose not to participate could lead to unrepresentative data, their profiles, including their current teaching placement and their edTPA scores, were fairly similar to those within the final participant pool. All five are teaching in schools that are within partner districts of State U in public high schools that are comparable to those of other study participants. All five successfully passed the edTPA on their first try, whereas seventeen out of the 20 participants in the study passed edTPA on the first try. On average, the participants and those who declined to participate were both three years removed from their edTPA. (See Appendix B for more details). Thus, it seemed that selection bias was not an issue.

Having 20 participants ensured that, on average, there were four participants per graduation year in the period from 2011 to 2015. Ten participants came though the

BA program and 10 through the MA program at State U. All 20 participants were compensated for their time with a $100 honorarium for completing all three steps of the process, namely, two interviews and an email response to a post-analysis member check to verify the accuracy of my interpretation of their comments. Two participants decided to withdraw from the study after the initial interview. Nevertheless, their responses to that interview are still included in the study.

Interview Design. I interviewed each participant twice. The initial interview, elicited participant *perceptions* of what they learned by completing edTPA and whether they currently use student-centered edTPA practices. The second interview asked participants to describe how the student-centered vision of good teaching within three specific edTPA rubric with three rubrics compared to their current pedagogical practices.

The Initial Interview Protocol. Designed to take approximately 45 minutes in total, the initial interview addressed three broad issues: (1) the participant's experience as a practicing teacher and its connection to edTPA (2) his or her student teaching experience and how that experience resonates in their current practice (3) his or her pre-service experience completing edTPA. More specifically, in the first part of the initial interview, I asked participants three questions about their current teaching and how they perceived their school environment as supporting or hindering their use of student-centered edTPA practices. The second portion of the interview included three questions focused on their student teaching experience and their perceptions of how

their pre-service student-teaching practicum may have impacted their current pedagogical practices. Finally, the third section gathered each participant's thoughts on how edTPA impacted their current practice as well as their views concerning their edTPA process at State U.

I received peer and faculty input on drafts of the initial interview protocol and the pilot study (see below), which resulted in improvements and adjustments. In creating the initial interview protocol, I also referenced interview protocols used in prior teacher performance assessment studies (Chung, 2005; Steeley, 2003; Saylor, 2014). The finalized protocol can be found in Appendix C.

The initial interview protocol followed a semi-structured design. As Richards and Morse (2013) note, semi-structured interviews are ideal when the researcher "knows enough about the domain of inquiry to develop questions about the topic in advance of interviewing but not enough to anticipate the answers" (p. 126). In contrast to a completely structured protocol, semi-structured protocols allow interviewees to raise issues and make connections that the researcher might not have considered.

Second-interview protocol. The second interview followed a think-aloud protocol in which participants were asked to respond to questions after having had the opportunity to view their submitted edTPA portfolio. A think-aloud protocol was used as a means to better understand their thinking processes (Camps, 2003; Charters, 2003) about the completion of their edTPA during pre-service preparation. Think-aloud protocols have been used with practicing teachers as they examine videotapes of

themselves teaching, their lesson plans, and their reflections on a particular lesson (Berliner 1986; Beyerbach, Smith, & Thomas, 1992; Calderhead, 1981; Morine-Dershimer, 1983). They also have been used in prior studies of teacher performance assessments (Chung, 2005; Lin, 2012).

To allow them to refresh their memories, I provided participants with their actual, completed edTPA portfolio (i.e., their submission) some 48 hours prior to the second interview. Participants also had access to their edTPA portfolio during the interview so they could easily reference the information it contained.

The second interview consisted of fifteen questions—five questions for each of the edTPA planning, instruction, and assessment tasks (see Appendix D for the complete protocol). In general, participants were asked to reflect back on the choices they made in completing the edTPA as pre-service teachers (i.e. why they chose particular lessons to use for their edTPA). They also were asked to make connections between effective (and less effective) instruction as instantiated in the edTPA rubrics and their current pedagogical practices.

In addition, one question per edTPA task focused on a specific student-centered practice as prioritized in the edTPA rubrics. Specifically, Rubric 3, which focuses on the inclusion of student prior knowledge or personal/cultural assets when planning lessons, was referred to in second interview questions about the planning task (Task 1). Rubric 8, which focuses on teacher questioning practices during instruction that encourage classroom discourse, was referenced when asking about the instruction task

(Task 2). And Rubric 12, the specific feedback rubric, was referenced during questions about the assessment task (Task 3). Chapter 1 provides additional detail about these three rubrics, including the specific pedagogical practices they valorize through the description of high- and low-scoring practices.

I centered the second interview on Rubrics 3, 8, and 12 to ground the discussion in the type of student-focused practices described in edTPA documentation. As part of this, I asked the participants to compare and contrast their (pre-service) instructional practices as represented in their edTPA submission and their current practices. The degree of correlation between their current practices and high- and low-scoring practices as represented in the edTPA rubrics provided a lens into the educativity of edTPA. Furthermore, each of these rubrics provided participants with the opportunity to discuss specific aspects of their teaching practice (creating lessons that are student-centered, encouraging classroom discourse, and providing detailed feedback) as opposed to rubrics that addressed more general components of their teaching practice, such as classroom environment (Rubric 6).

Both the semi-structured format for the initial interview and the think-aloud format for the second interview are approaches to interactive interviewing that require the interviewer to listen carefully and to be aware of when to probe for more information. Probing questions can either be formed ahead of time or arise during the interview. These probes should be used sparingly and strategically so that they do not interrupt a participant's thought process (Richards & Morse, 2013). However,

interactive interviewing protocols can result in participants sharing information that is unrelated to the research questions at hand. In this study, an effort was made to allow participants latitude in expressing their opinions, but if they strayed too far off-topic, I redirected the conversation towards the questions found in the protocol.

Pilot Study

I piloted both the initial and the second interview protocols. To test the initial interview protocol, I conducted a pilot study with two secondary mathematics alumni who had successfully completed edTPA during their student-teacher experience at State U. At the time, one pilot participant had completed one year of secondary mathematics teaching and the other had completed three years. One interview was conducted in person and the second was done over the phone. Both participants received a $10 gift card (from Amazon or Starbucks) for their participation.

Pilot Participant 1 was a 2014 graduate of the MA program and recently completed her first year of teaching in a district outside of State U's metropolitan area. Due to a summer job outside of the local area, her interview was completed via Skype. Pilot Participant 2, a 2012 graduate of the MA program, spent her first year of teaching in a public middle school in the suburbs of State U's metropolitan area. Pilot Participant 2's interview was conducted in person. Pilot Participant 1 experienced memory and recall fatigue during the interview.

Both interviews were audio recorded and then transcribed completely. I manually coded the transcripts from both pilot interviews, with some of the initial codes stemming from common themes identified in the literature review (see Chapter 2) as well as themes that stemmed from my researcher experiences working with candidates on edTPA. Additional themes emerged from the pilot study, including perceptions about the vision of edTPA, the student-centered "values" of edTPA (as encoded in descriptions of instructional practices which should receive high scores), the student-centered teaching pedagogy promoted by edTPA (again as decoded by score emphases), participant recalled emotions connected to edTPA, and connections between pedagogical decisions they made on their edTPA and ones they make in their current teaching practices. While they suggested some minor modifications, the pilot interviews effectively confirmed that the questions in the initial interview protocol generally provided the data necessary to answer the research questions.

I piloted the second-interview protocol with Pilot Participant 1 during the summer of 2016. This tested the process of having alumni review their completed edTPA prior to sitting down for the second interview. This clearly helped with participant recall and to eliminate some of the memory-related concerns that emerged in the piloted first interviews. As with the first pilot, the piloted second interview was transcribed and coded by hand. Common themes around student-centered planning and instruction as well as edTPA as a tool for reflection and growth emerged in my coding of this second pilot interview and the initial pilot interviews.

Data Collection

The initial interviews were conducted between September and December 2016, a few months after the pilot interviews. Seven of the initial interviews were conducted in person and 13 were conducted via Skype or on the phone. The second interviews were conducted between January and June 2017. Four of these were conducted in person and 14 via phone or Skype. The use of phone or video conferencing was necessary as some participants lived outside of the local metropolitan area of State U and hence could not be interviewed in person at a reasonable cost. Given the busy schedules of the participants, all full-time teachers, the interviews were conducted at participant convenience. All of the interviews were audio-recorded and transcribed. A total of 30 hours of audio were collected in 38 interviews. (See Appendix E for a sample audio transcription)

Consistent with semi-structured interview methodology, I encouraged the participants to speak candidly, openly, and freely. I attempted to not interrupt them and to hold my questions until it seemed like they had finished their thoughts. However, sometimes clarification or corrections were necessary during the interview. This occurred in approximately 15 interviews out of the total 38. In those cases, I asked follow-up questions to seek clarification specifically about crucial elements related to the research questions (i.e., about their understanding of particular comments related to their program, their impressions of edTPA, and their current teaching experience.)

Such interruptions were used if a participant misremembered an aspect of their edTPA experience but were not used to change a participant's opinions or emotions.

Similarly, I periodically used prior institutional knowledge to ask follow-up interview questions that sought a pertinent connection, as allowed by the semi-structured format. For example, if a candidate shared that his or her district used Charlotte Danielson's Framework for Teaching (FFT) as a teacher observation tool, it was important to ask participants about the connections they saw between their district's use of FFT and edTPA's vision of good (i.e., student-centered) teaching. I understood that, like edTPA, FFT also promotes student-centered practices (Youngs & Whittaker, 2017),

Data Analysis

In this study, I used inductive analysis and the grounded-theory strategy of typological analysis to code. Inductive analysis begins with specific data (in this case interviews) and moves towards general themes (Hatch, 2002). While grounded theory uses multiple levels of coding to help the research build a story from the research without pre-existing ideas to create codes (Hatch, 2002; Cresswell, 2007), in this case codes were developed using typological analysis and techniques developed by grounded theorists (Charmaz, 2006).

Typological analysis uses some initial themes gathered from literature reviews or research objectives as the first set of codes (Hatch, 2002) making "the topics that the

researcher had in mind when the study was designed will often be the logical places to start looking for typologies on which to anchor future analysis" (pp. 152-153). In this case, particular themes, or typologies, stemming from the literature and the pilot study were sought. I used a version of topic coding with the goal of "accurately portraying the distribution of different attitudes and experiences" of participants in relation to edTPA. (Richards & Morse, 2013, p. 157).

The pilot study provided an opportunity to begin analyzing interviews and developing initial codes and schemes. Because I created the first and second interviews so that certain sections corresponded to specific topics (i.e. the initial interview discussed the candidate's current teaching placement, the second probed the candidate's current teaching placement), I anticipated certain themes to emerge from particular sections of each interview. For example, I anticipated that teacher reflection would be a theme invoked by participants as it is a key emphasis of edTPA. However, the particular experiences that participants shared about teacher reflection (e.g., whether they learned to be more reflective as the result of completing edTPA) remained an open question. Further, in both pilot interviews, participants used related expressions like *reflection, thinking about my practice,* and *thinking about teaching*. As a result, I decided to use colors to highlight terms, phrases or sentences in each interview that fell under the same thematic code. My literature review revealed other potential themes, such as *candidate support during the assessment, the length of the performance assessment teaching segment,* or *the impact of video recording on assessed instruction*.

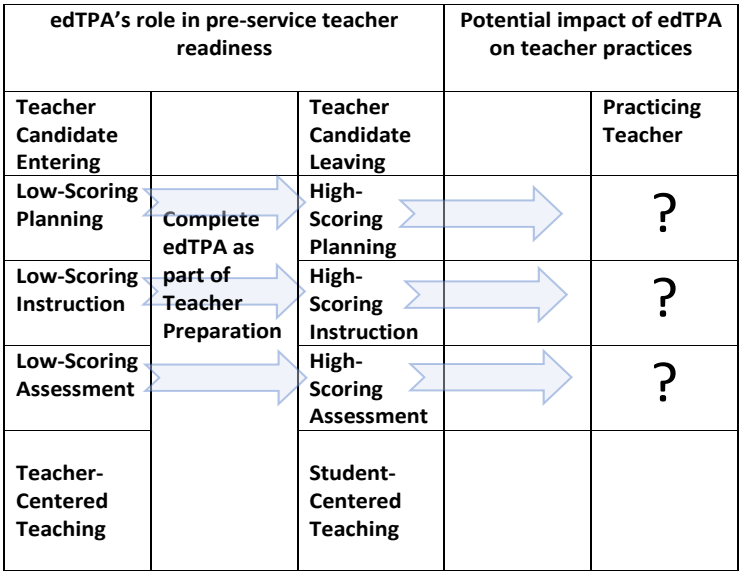
These themes helped create the initial codes for the first interview transcripts which were focused on the program and candidate perceptions of edTPA. That said, when completing initial coding, other themes emerged from participant answers. These themes included the desire to implement student-centered practices from edTPA yet not knowing how to do so during the daily teaching schedule.

Analytic framework and coding. My research questions focused on practicing teachers' reflections about the educativity of edTPA, their related use of student-centered planning, instruction, and assessment practices valorized in edTPA rubrics, and what influenced their use (or non-use) of those practices as in-service teachers to determine whether the edTPA assessment served in an educative role to influence participant teaching practices.

Student teachers often teach similarly to the way they were taught as K-12 students (Lortie, 1977). As a result, many new teachers adopt familiar teacher-centered approaches. As discussed in Chapter 1, teacher-centered approaches tend to receive low scores using edTPA rubrics. Ideally, the combination of learning student-centered practices from a teacher preparation program and completing edTPA would prepare and encourage teacher candidates to implement student-centered practices which would receive high scores on the edTPA rubrics – both in their fieldwork sites as pre-service teachers and in their current practices as in-service teachers. Candidates that successfully pass their edTPA portfolio demonstrate their ability to implement student-centered practices.

This study examines whether a demonstrated ability to implement student-centered practices as part of edTPA completion translate into the adoption of student-centered practices in subsequent years; that is, if completing the assessment contributes to longer lasting shifts in their pedagogical practices. The diagram below (Figure 2) demonstrates the shift that, according to the educativity theory of action, should result from having completed the edTPA completion within the teacher preparation program (see, for example, Darling Hammond & Hyler, 2013; Sato, 2014**).**

Figure 2. edTPA Influence During and After Teacher Preparation



Topic coding using three edTPA rubrics. After several rounds of inductive coding and memoing, I arrived at a set of analytic codes that were designed to address the study's three research questions. In response to the first research question, *What are secondary mathematics teacher retrospective and perspectives of edTPA, including*

their experience, feelings, and thoughts on how edTPA serves as an educative tool?, I focused codes on whether participant descriptions of edTPA included an educative nature, or whether participants cited connections between student-centered practices endorsed by edTPA (see Chapter 1) and their current practices. Codes were assigned to explicit comments (comments where participants specifically mentioned edTPA and its relation to current practice) and implicit comments (instances where participants did not mention the assessment but instead referred to high scoring practices found within any of the edTPA rubrics). Data gleaned from the first interview proved to be particularly relevant to answering the first research question.

For the second research question, *How do secondary mathematics teachers describe their use or lack of use of high-scoring edTPA practices for planning, instruction, and assessment in their current teaching?*, participant descriptions of their current practices were related to the language of high-scoring edTPA practices as articulated in the student-centered planning rubric (Rubric 3), the classroom discourse rubric (rubric 8) and the detailed feedback rubric (rubric 12). That is, I referenced these three edTPA rubrics to help determine if participants were using the kinds of student-centered practices for planning, instruction, and assessment that would score well using edTPA rubrics.

Data from the second interview, in which participants reviewed the practices demonstrated in their edTPA submission and compared those to their current practices, helped answer the second research question. Examining their descriptions of their

current practices in light of the edTPA rubrics, I sorted participants' reported current practices into three levels: high-scoring, mid-scoring, or low-scoring. Initially, I considered using language from the edTPA rubrics to categorize participants into these three levels. For example, the language for Level 3 for Rubric 8, states "[c]andidate elicits student responses related to understanding, mathematical concepts, procedures, OR mathematical reasoning and/or problem-solving skills" (SCALE, 2016b). However, this language was written for scorers observing candidate videos and proved inapplicable to the participants' interview responses.

Since this study relied on candidate testimonies of their practice as opposed to seeing their actual practice, I modified the rubric language to address better fit this study's data. For example, in examining Rubric 8, I wrote, "Level 3: Participant response to Rubric 8 discusses ways questioning promotes thinking (for example using Why questions). This language falls in line with the rubric guiding question, *How does the candidate elicit responses to promote thinking and to develop conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?*

In adapting the language from edTPA rubrics, I aimed to represent the pedagogical changes addressed by the different rubric levels. For example, when discussing Rubric 8, the classroom discourse rubric, mid-scoring practice (Level 3), categorized by a teacher asking questions that promote student thinking, was distinguished from high-scoring practice (Level 4) categorized by a teacher promoting

dialogue among students. Similar distinctions are found for teacher-candidates in edTPA Rubric 8.

For the third research question, *What factors do secondary math teachers cite as supporting or constraining their ability to implement high-scoring pedagogical practices in their instruction?*, I coded interviews for outside influences that participants saw as supporting edTPA's student-centered vision (e.g., a school professional development focused on asking deeper questions) or those that hinder this vision (e.g., a school's focus on test preparation leading to more teacher-centered lessons).

I utilized data from both interviews to answer this question. In the initial interview, participants were asked about their current teaching placements, offering them room to discuss the context of their school setting in relation to their teaching practices. In the second interview, many participants referred to the influence of their school or district policies on their teaching practices while they were discussing specific rubrics. Thus, both interviews were examined completely for references to their current school or district climate's effects on their teaching practices.

Thematic coding. While each interview was topically coded, as described above, some codes fell into different themes. Throughout coding, I used grounded theory techniques including focused coding (or analytic coding), taking the initial sets of codes and grouping them into analytical categories. However instead of starting with a blank slate in creating my set of codes, I began with some initial codes stemming

from both the literature and the pilot study (Charmaz, 2006, Richards & Morse, 2013). This second round of thematic coding allowed me to identify patterns, relationships, and themes in the data, which allowed me to make generalizations from the analysis (Hatch 2002).

During the thematic coding round, both the initial and second interviews were coded consistently (Richards and Morse, 2013) with codes found in the initial interview also identified in the second. Topic coding for the second interview included both codes from the first interview as well as new codes that emerged related to practicing teachers. For example, a theme from the second interview was how participants connected edTPA to their district teacher observation protocols.

As themes emerged from data analysis, it became clear that the best way to organize the results was to examine each research question separately. This process allowed each question to be thematically coded based on each specific research question. At the same time, a few themes unrelated to a specific question but relevant to the discussion of teacher preparation or edTPA also emerged. These results were placed in their own categories

Analytic memoing. To move from codes to themes, qualitative researchers use analytic memos because they "prompt [the researcher] to analyze...data and codes early in the research process" (Charmaz, 2006, p. 72). Analytic memos offer researchers space to reflect on their emerging ideas and opportunities to begin to analyze the meanings of groups of codes. In this study, I used memos frequently to organize ideas,

generate conclusions, and confirm or refute potential hypotheses. For example, one memo helped me to define three categories of participants' perspectives on the educative nature of edTPA. This was pertinent to the first research question. For both the second and third research questions, I used memos to organize the themes that emerged from the data analysis as related to specific edTPA rubrics (for research question two) or external influences on high-scoring pedagogical practices (for research question three). I also used memos to examine whether a participant's stance shifted throughout the interview as well as to determine if a participant's perspective fit into existing themes or needed to be categorized as an entirely new theme.

Member checks. Researchers often use member checking with participants as a way to verify the accuracy of the analysis (Carlson, 2010). As Carlson (2010) notes, completing member checking allows the researcher to ask the participant, "Am I on the right track? Did I understand this in the same way you meant it?" (p. 105). Member checking also is consistent with the constructivist stance outlined earlier.

In his work *Interviewing As Qualitative Research,* Siedman (1998) introduced a third interview as a form a member check, where participants are asked to reflect on the meaning of their experience. In order to respect the participants' time, this study imbedded those components into the second interview. Additionally, member checks were conducted electronically via email.

Member checks for this study involved summarizing transcripts of participant interviews around particular themes (member checks ranged from 2-5 pages,

depending on how long a participant interview may have been). Sharing quotations from the interviews, particularly quotations that could potentially appear within the dissertation, allowed participants the opportunity to re-read their own words. Placing the quotations around different themes provided participants with a sense of how I interpreted their interview. In the email message sent along with the member check, participants were asked to read through the summary and to provide either any clarifying statements or additions to the summary.

Study Limitations

This study aims to examine teacher perspectives on edTPA and recognizes that the participants' own truth about the assessment will be shaped by their experiences in their teacher preparation program (e.g. their mentor teacher, their placement), their experiences as a teacher (e.g. their current district or school) and their own perspective about edTPA and about what good mathematics teaching looks like.

One of the potential limitations of this study was the role edTPA played in the candidate's preparation program in that performing well on edTPA was not required in order to complete the program. Huston (2015) notes that the low stakes nature of edTPA in his study may have impacted candidate perceptions of the assessment. At State U, successful completion of edTPA was required for program completion. Most students did not have their edTPA officially scored and it was possible for a student to pass their student teaching and become certified without a strong edTPA portfolio. This

could have impacted the quality of student work on the assessment. However, most participants in this study asserted that they had taken the edTPA process seriously and wanted to pass the assessment on their first attempt.

In this study, participants were interviewed about edTPA and its influence on their teaching between one and six years after having completed it. The amount of time since completion might have affected memory recall about their program, their student teaching experience, or their edTPA assessment. (As mentioned, the second interview attempted to address this limitation.) A longer length of time since completing edTPA could have had a negative impact on recall (with participants being unsure of their thoughts at the time of the assessment). In fact, a pilot participant who completed edTPA nearly four years ago found it challenging to recall key components of the assessment. However, an advantage of talking with participants many years after they completed their edTPA is that they may have gotten past the "survival mode" stage many first-year teachers face. Therefore, they may be more reflective about their teaching practice (Van den Haak, Jong & Schellens, 2003). Related, participants may view edTPA differently as veteran teachers than they did as teacher candidates or as first-year teachers who recently completed the portfolio.

The choice of rubrics focused on in the second interview certainly shaped the study results. Selecting another set of edTPA rubrics to focus on may have changed the results of this study, such as rubrics that focused on classroom environment (Rubric 6)

or providing supports (Rubric 2). This limitation is explored in more detail in Chapter 5.

Some interviews were conducted in person, and some were conducted over the phone or by Skype. This may have resulted in differing interview interactions affecting the length or brevity of the interview, the comfort of the participant, or other effects. Further, during the interview phase, varying lengths of time passed between first interviews and second interviews. In some cases, the time between a participant agreeing to participate and having their first (or second interview) spanned several months. These varying time lapses could have affected participant's recollection or continuity between their responses. Related, audio transcription occurred at varying lengths of times following recording. While the initial goal was to transcribe both sets of first and second interviews within two weeks of their occurrence, at times interviews were transcribed at a later date. This may have affected transcription accuracy, particularly when muddled audio recording sections were transcribed.

In addition to these limitations, extensive researcher background with edTPA and familiarity with the participants may have resulted in limitations to researcher objectivity and participant honesty. All of the participants knew me professionally before participating in this study, so it is possible some of them may have shared more positive perspectives on the educativity of edTPA than if their interviewer had been a complete stranger. In addition, my extensive experience with edTPA (as described

below) could have impacted my interpretation of a participant's narrative in favor of edTPA's educative nature.

Researcher Positionality

My extensive background with edTPA as an edTPA official scorer, an edTPA official scoring trainer, local edTPA office director, and student-teacher intern supervisor spurred my interest in whether edTPA is truly educative for career teaching practices but may also affect my objectivity as a researcher. I first became involved with edTPA (then called TPA) in 2010 as a lecturer at State U. My main role then (and continuing through June 2017) was to coordinate the secondary-mathematics student teaching internships for State U. At that time, State U, like many states, shad still been relying on Praxis passing rates as a proxy for measuring the success of its teacher preparation programs. At the same time, State U saw potential in edTPA to represent teacher preparation differently than the Praxis, which has been criticized for various reasons (De'Agostino & Powers, 2009)

I attended an edTPA training to become more familiar with the edTPA assessment because State U.'s MA secondary math interns would take it in the spring of 2011 and undergrad BA students would pilot in the spring of 2012. Similarly, I became an official edTPA scorer in the fall of 2011 (official scoring is done through Evaluation Systems, a part of Pearson Education) to better understand the assessment. By the spring of 2012, I was an official scoring supervisor, and by the fall of 2013, I

was promoted to an official scorer trainer, a role which involved score validation and leading online trainings for new and experienced scorers.

In addition to my work with official scoring and Pearson, I also participated in edTPA-related work from SCALE. As more and more states and institutions across the country considered using edTPA, I was amongst a handful of educators who supported SCALE's national work by leading or co-leading workshops on edTPA implementation and "local evaluation." In the summer of 2013, I became State U's Director of edTPA Local Evaluation. In that role, I served as the point-person for students and faculty on nearly all aspects related to edTPA. I presented at both local and national conferences on State U's edTPA local evaluation, and in particular, its connection to P-12 partners.

Currently, I am heavily involved in discussions at State U to connect edTPA to teacher induction in local school districts. I am also working with State U to reposition edTPA as a tool to prepare teacher candidates to become strong teachers in school districts. The goal of these efforts is to change the perception that the assessment is just another hoop for teacher candidates to jump through.

Some may believe that my current role with edTPA and my work with SCALE and as a Pearson employee make me a biased in favor of edTPA. To reduce this potential influence, I removed myself from some of the national conversations around edTPA during this dissertation. I stepped away from a consultant job with SCALE doing national edTPA support in January 2015 and stopped edTPA training in January 2016. While these steps demonstrate my efforts to create some sense of objectivity in

this study, my role with State U focused on edTPA support brings some sense of subjectivity, in that I do believe that edTPA can play a positive role in teacher preparation.

Additionally, my opinion of edTPA has been shaped by my own teacher-preparation experience, where I completed an unusual teaching portfolio, and my time as a classroom teacher. My personal experience as a math teacher spanning 10 years in both private and public schools made me consider the process for those entering the profession. As a former lecturer at State U, I was also involved in supporting teacher candidates from the time they entered the program, through their internship experience, and often in an informal support role once they were practicing teachers. In that capacity, we often discussed what experiences they thought prepared them most for successful teaching careers.

Since I served as State U's Secondary Mathematics Professional Development School coordinator for seven years, I knew all the prospective participants prior to their agreeing to participate in this study. For many participants, my knowledge included their beliefs about their practicum experience, including their feelings about edTPA that were shared as part of student teaching seminars.-While this familiarity could have made participants more comfortable in the interview settings, it also could have led participants to alter their responses, limiting the study's reliability.

Chapter 4: Results

This chapter presents the thematic findings that emerged from the interview analysis. Taken as a whole, the participant group was split in their perception of the educativity of edTPA. Some participants felt that it was educative, while others did not. However, the majority of participants expressed a desire to make more frequent use of the kinds of student-centered practices endorsed by edTPA rubrics in their current teaching practice. The presentation of the results, or major themes, is arranged around each of the three research questions. Subsections begin with an overall summary followed by specific themes and sub-themes that emerged from the data.

Participant Perspectives of edTPA Educativity from the Field

Almost all participants described having completed edTPA as part of their pre-service program as an intense process. In the first interview, participants used terms such as "long" and "daunting" and said that edTPA caused them "angst and anxiety," even though, for many, it had been years since they actually completed it. One participant presented the opposing view that "looking back, [edTPA] wasn't that bad."

Despite their almost unanimous agreement that completing edTPA was intense, some participants also noted positive attributes of edTPA completion, including how it might be a useful tool for helping novice teachers improve their practice. Based on their descriptions of the relation between edTPA and their current instruction, the participants could be sorted into the following three categories, namely, those who saw:

(1) no correlation between edTPA and current practice, (2) weak correlation with unspecific pedagogical influence of edTPA completion, and (3) strong correlation with specific pedagogical influence of edTPA completion on their current practice. Participants in the second category viewed edTPA as a tool that helped improve teacher reflection practices yet did not connect edTPA to improving any specific pedagogical practice. Participants in the third category specifically discussed how edTPA improved their use of student centered practices, such as providing more detailed feedback. I detail the views of each category of participants below.

No correlation. One-quarter of the participants (Fred, Susan, Adam, Piper, and Daisy) said that they viewed edTPA simply as a program requirement and saw little connection between the practices valorized in the assessment and their current practice. Adam summed up the sentiment of this "no correlation" group by stating, "I saw it more as a 'completion task' rather than a 'learn from it task.'" Also representative of this group, Daisy said that edTPA, "felt like a separate project that I had to do," and, "I don't think that it could make someone a better teacher."

Weak correlation between edTPA and current practice. Seven participants (Kate, Harry, Elena, Cathy, Mary, Kon, and Zoey) expressed that completing edTPA impacted their own reflection practices but were only able to provide generic examples of the influence of edTPA on their current teaching. For example, Mary found that completing edTPA changed her understanding of teacher reflection, and that in completing edTPA, "you learn how to look back on how you taught that lesson in a

self-critical manner…which is something that you are going to have to be doing – it is now – you are just doing it for the rest of your life." That said, when asked if edTPA could make someone a better teacher, Mary noted the unrealistic nature of carrying out edTPA-level practices for planning, instruction, assessment, and reflection, noting:

> edTPA by itself, maybe not, because I don't have the time to put into every single lesson like I did for that one and I don't think it's realistic or possible with the time that I had in the day to plan a lesson of that caliber for every single class and analyze the way that I did for every single class.

Like Mary, other participants in the "low correlation" group seemed to think that edTPA was valuable for them as a candidate but had not continued to be as useful to them as they gained experience.

Strong correlation between edTPA and current practice. The remaining eight participants (Phuong, Debbie, Amy, Abby, Jessica, Crystal, David, and Samantha) discussed the connection between edTPA and their current practices and were able to provide specific, detailed examples of how what they learned from completing edTPA connected to their current practice. For example, Abby said that completing edTPA helped change her teaching style from a teacher-centered (or traditional) way of instructing towards more student-centered teaching. Consistent with Lortie (1975), she indicated that she began teaching following the example set by the high school mathematics teachers she had had as an adolescent. She noted that edTPA's discourse practices in the instruction task (Task 2) helped her to adopt more student-

centered mathematics instruction. Before edTPA, having "students in our classes talk about the math was definitely something I didn't know how to do and definitely was something I learned how to do as part of the year and part of the [ed]TPA process." She also added that she carried that emphasis on student talk learned during her preserve preparation – and emphasized on edTPA – into her current teaching.

In discussing the direct role of edTPA on their planning, instruction or assessment practices, six of the eight participants in the "strong correlation" category focused on the manner in which edTPA commentary prompts or guiding questions shaped their current mindset for planning, instruction, and assessment. For example, Amy noted that she felt edTPA was helpful to her current planning practices because "all of the questions that were provided for the edTPA are daily-basis questions that we ask as teachers…When I plan for a lesson, those [are] questions that I...keep in mind." Debbie added that she felt the overall goal of edTPA was for new teachers to learn to be purposeful and intentional in all aspects of their instruction. She also said the lessons she learned from edTPA, to have purpose in teaching and planning and also to be reflective, was still shining through her teaching, even if she could not give it as much attention as she would like to. She added:

> To have a process, a frame of mind to [have purpose and be reflective]...I think edTPA helps set that up. That process continues on. Maybe not as in-depth as edTPA, but that mindset of wanting to go into a lesson prepared and have things

on your mind, do it, and then just get better with each time that you teach it [continues].

Other participants in this category detailed direct connections between edTPA and their current work. They all mentioned on-going teacher observations and assessments as playing a role. For instance, David and Samantha both referenced edTPA's reflection practices as assistive in meeting the expectations of their district's formal observation protocol. In particular, they said edTPA helped them better reflect on their own teaching, which is a requirement of Charlotte Danielson's (2013) *Framework for Teaching* used by their supervisors for teacher-evaluation observations.

Educativity of edTPA and perspectives on curriculum. As part of the first interview protocol, participants were asked to discuss influences on their current teaching, including whether their teaching was impacted by any particular curriculum or pedagogical decisions made by their school or district. To some degree, participant perceptions about top-down curriculum mandates seem to parallel their perceptions about the educativity of edTPA. Four of the five participants in the "no correlation" category cited that their prescribed county curriculum and lesson plans as a strong influence on their instruction practices. These four commented they were supposed to follow, and in some cases, felt they could not deviate from, that mandated curriculum. For example, in describing his county's curriculum, Fred said, "they have a set curriculum on a shared website that you can look at to see what you are supposed to be covering." Fred and others in this group indicated that they could not incorporate

student-focused planning or reflective practices valorized by the edTPA. This may have contributed to their failure to view edTPA as educative. After all, if they did not need to apply the student-centered methods endorsed in edTPA rubrics in their current instruction, was it even useful to learn these methods as part of their teacher preparation?

In contrast, participants in the "strong correlation" group made it clear that in their current school and district contexts they had considerable freedom to plan and teach their lessons. This allowed them to try out or adopt student-centered practices consistent with the edTPA vision. Both David and Samantha discussed how their respective counties provide curriculum resources and have expectations for student testing results, however as educators they felt it was important to create lessons that were more student focused and tailored to their specific classes. David said that he adapts his county's curriculum material to make it more rigorous for his "science and technology" classes. Similarly, Abby expressed that she "definitely used [the county] stuff as a starting point, but a lot of times you have to make it your own in order to be the best teacher for your students." Samantha noted that "in general I try and just ignore the testing…as much as possible because it stresses the kids out but [I'll] still be incorporating problems they will see [on the tests] and the type of problems." Student-centered planning, instruction and assessment practices valorized by edTPA could matter for these teachers because they were given the space to try various instructional techniques, to plan a range of lessons, and provide students' targeted feedback. In other

words, it seemed clear that they were able to use and see the value in the edTPA vision of student-centered mathematics teaching in the real classroom precisely because they were given room to do so.

Student-centered Practices in Use

The analysis of the second interview revealed that the majority of the candidates maintained practices that would be considered mid-scoring on edTPA, the equivalent of "ready to teach" as pre-service teachers – not overly teacher-centered but not particularly student-centered. As detailed below, the reported use of student-centered practices during current instruction was mixed: a few participants shared that they were not able to implement the kinds of student-centered practices they attempted while completing edTPA and implied that their current instruction is more teacher-centered than their pre-service-era instruction as represented in their edTPA submission. That said, a few reported using more student-centered practices in their current teaching than they did in their edTPA submission. A third set of participants shared that they were not able to maintain student-centered practices that were valued on edTPA. The following sections detail participant use of student- centered practices for planning, instruction and assessment as represented by one edTPA rubric per task. Each section includes a categorization of all participants using modified edTPA rubric language.

edTPA Planning task. As a group, the participants reported current planning practices that would have ranged from student-centered to teacher-centered using the

planning rubric (i.e., Rubric 3). At the student-centered end**, s**ix of the participants described their current planning practice as being responsive to students' prior knowledge and personal/cultural assets**.** At the teacher-centered end, despite being asked specifically how Rubric 3 connected to their current planning practices, three interviewees failed to state how their current planning was responsive to their students. In the middle, another ten participants described considering students' prior knowledge or personal/cultural assets (but not both) when planning**.** Table 1 shows the distribution of participants to these three categories based on the analysis of their interview statements in light of Rubric 3.

Table 1

Participants and student-centered planning in light of edTPA Rubric 3. *

Scoring candidates current reported practice using edTPA Rubric 3: *How does the candidate* use knowledge of his/her students to justify instructional plans?*		
Low-scoring (Level 2 on edTPA rubric 3): Participants either do not connect using prior knowledge or personal cultural assets when creating lesson plans	Mid-scoring (Level 3 on edTPA rubric 3): Participants focus on using either prior academic knowledge or personal cultural assets (but not both) during their current planning.	Student-centered (Level 4 on edTPA rubric 3): Participants focus on using both prior knowledge and student personal cultural assets OR share focusing on who their students are when planning.
Adam Fred Piper	Abby Cathy Daisy David Elena Harry Kate Kon	Amy Crystal Debbie Mary Phuong Samantha

	Jessica Zoey	

Note that Susan is not listed in Table 1 as she did not complete the second interview and her responses to the first interview did not discuss her planning practices.

Many of the participants in the mid-scoring group revealed that they knew how to, or that they should know how to, tailor lessons in response to the individual students or groups of students, but to do so was too hard or too time intensive. Jessica, one of the mid-scoring teachers, said that she felt that it was hard for her to make her "cut and dry" math curricula relate to students' cultural backgrounds and lived experiences, but that she tried to do so when she saw connections. Despite her self-reported struggle to infuse student personal assets into her lessons, after re-reading her edTPA Jessica remarked, "everything that I wrote is kind of how my mind works as I am planning now as a teacher." So even though Jessica reported that she was not planning how she wanted to at all times, she was still influenced by the ideas she had studied and demonstrated as a pre-service teacher.

The six participants in the "student-centered" group described how edTPA's description of planning with one's own students in mind has influenced their current planning practices. As with the lessons in her edTPA sample, Debbie reported that she still strives to engage all of her students when she's planning, commenting that:

> Engaging and reach[ing] all of the students…I think that is still a central focus in the planning I do now, how to relate lessons to specific populations, how to get them interacting with each other rather than just the straight note-taking and practice, real thinking and not cookie-cutter-ing the material for them.

Others in the student-centered group, described using similar approaches. For example, Phuong reported that she currently creates math lessons that incorporate both students' prior knowledge and their personal assets. She also described including issues of social justice in her math lessons because, as she said, "my students are super socially aware and critically conscious."

On the opposite end of the spectrum, low-scoring participants described planning teacher-centered lessons that did not incorporate or build on students' interests or prior knowledge in planning. Adam mentioned using real world projects in his Calculus class but otherwise did not address how his regular planning incorporates the prior knowledge or personal assets of his students. He did note that, in re-reading his edTPA, "[I] was just writing what they wanted and writing what they [the edTPA evaluators] were looking for." Fred also said that students' prior knowledge or personal cultural assets minimally impact how he creates his lesson plans.

edTPA educative in other aspects of planning. While participants were specifically asked about their planning practices related to those addressed in Rubric 3 (see Chapter 1, page 5), some participants brought up other examples of having learned from (i.e., educativity) from other edTPA planning rubrics. These examples included

creating mathematical lessons that were student-centered and less procedural than they otherwise would have been (Rubric 1), providing differentiated supports for students based on their backgrounds and individual needs (Rubric 2) and incorporating academic language into daily lesson plans (Rubric 4).

Several teachers mentioned that in their current teaching practice they tried to escape rote lecturing through the use of more engaging class activities. Jessica reported that, when planning, she asks herself these questions, "How do I make this less procedural? How can I make this more conceptual? How can I apply this to the real world?" Crystal also mentioned "active learning" and connections to the real world for her own classroom use and also for use by teachers she coaches:

> When my teachers now teach probability or data collection or things like that, we do—I still encourage them to have experiments. Let the kids time themselves and see how many jumping jacks they can do to collect data. Anyway, you can encourage the kids to get out of their seats and really interact with the math. I still highly encourage in my role…By bringing in these real-world connections I think that overall, we can encourage kids to engage in the math more, enjoy the math, and develop their love for learning.

Differentiation is another way teachers demonstrate student-centered planning practices, by including activities, strategies, modalities, or assessments to accommodate varying levels of student readiness, interest, and learning styles. Jessica

said that because of edTPA's planning commentary questions, she finds herself thinking about differentiation in her daily planning.

A third way edTPA addresses student-centered planning is the inclusion of academic language in the planning task, asking teacher candidates to consider whether their students fully understand or can properly use content-specific terminology. Amy commented that "edTPA did a really good job incorporating language even for math." She added that when planning with her veteran colleagues, "they don't even mention language, thinking that it's not a priority," so she makes sure to include academic language components during the planning process.

Planning mindset versus planning reality. In discussing the planning task, half of the participants that fell into the mid-scoring or student-centered categories felt that there were connections between their edTPA and current planning practices often noted that when creating daily lessons, they try and embrace the ideals found within student-centered practices in the edTPA planning task, but that it is impossible on a daily or weekly basis to replicate the exact process of both creating detailed lessons and then analyzing them using written commentary. Samantha described this phenomenon when she stated:

> [edTPA] questions…they kind of become part of my normal thinking. I certainly don't write out nine pages for every lesson plan, but it kind of goes through my head as I am doing it. edTPA made you spell it out a lot more—to make you verbalize what may be an intuitive process that you may not have

> really thought about. Oh, I'm actually doing this because of this. So, I think that the edTPA did help really bring that to the forefront…And now it's something that continues because I am like, "*Oh, it's important*."

Zoey and Phoung both indicated that the depth of edTPA helped them to prepare for day-to-day planning because many of the planning prompts have become second nature to them. "Because we really fine-tooth combed through this set of lessons and so it kind of prepared," Zoey said. "I would say that it prepared me for what to do on a day-to-day basis." Phoung echoed the sentiment, saying, "And yeah, I think it was a great experience for us to do it in such pain-staking details so that it can become in the back of our heads."

Harry represented a group of participants that wished they had more scheduled time during their daily routine to create lessons that were as detailed as his edTPA lessons were. He and others observed that the fast-paced nature of daily planning prevents teachers from going into as much detail as they did on their edTPA assessment plans. Phoung noted that her planning preparation "is the same—it's just a lot faster now and probably not verbalized." Like Phoung, Harry views his planning process as less verbalized, but he wishes he had a better process to record on-the-spot modifications to his lessons, that he could "do a better job of a teacher after a fact to record success and failures." The realization of being unable to replicate the exact process of the edTPA but being able to apply the ideals found in student-centered rubric items will reappear later in this chapter around other components of the edTPA.

edTPA Instruction task. Consistent with the results in the previous section, the participants reported current instruction practices that range from student-centered to teacher-centered; that is, student-centered to low-scoring using edTPA Rubric 8 for instruction. At the student-centered end, seven participants were able to use questioning practices that promoted student discussion. At the teacher-centered end, five participants either did not specific address their questioning techniques or shared they did not consistently use higher level questions in their teaching. In the middle, six participants shared how they regularly incorporated questions that went beyond yes/no responses in their daily instruction. Table 2 shares the overall results for the instruction task.

Table 2
Alignment between participants' reported instruction and edTPA Rubric 8. *

Scoring candidates current reported practice using edTPA Rubric 3: *How does the candidate* use knowledge of his/her students to justify instructional plans? How does the candidate elicit responses to promote thinking and to develop conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?*		
Low-scoring (Level 2): Participant response to Rubric 8 prompt doesn't address type of questioning, focuses on lower-level questioning	Mid-scoring (Level 3): Participant response to Rubric 8 prompt discusses ways that their classroom questioning promotes student thinking (for example, using "Why" questions)	Student-centered (Level 4): Participant response to Rubric 8 prompt discusses ways that their questioning practices promotes student discussion between students.
Susan Fred Adam Piper	Harry Elana Daisy Abby	Phuong Samantha Debbie Crystal

Zoey	David Amy	Kon Mary Jessica

Note that Kate is not listed in Table 2 as she did not complete the second interview and her responses to the first interview did not discuss her planning practices.

Both David and Debbie mentioned how their districts encouraged teachers to use the high-scoring practices described in Rubric 8 in their current instruction. Despite entering his fifth year of teaching in the same county, David stated he is still struggling with this task. "Asking those…depth of knowledge – level questions," he said, "is still something that I still am always trying to work on. Back then, even looking over, my anticipated questions and prompts I was in the 1, barely brushing the 2 kind-of range[4]…I have been constantly telling myself: 'how can I ask this question better?'" Like David, Debbie noted her county focused on questioning through a course she took over the summer. She stated.

> The [district provided] course has helped have students explain their work rather than just "yes, no"—have them show their work or use evidence to support one answer over another. And to allow questioning to other students

[4] David is referring to the Webb's Depth of Knowledge (DOK), where 1, Recall and Reproduction, is the lowest level and 4, Extended Strategic Thinking, is the highest level. See https://edulastic.com/blog/depth-of-knowledge/ for more information on DOK.

> rather than just straight back and forth to me. But to be able to do that amongst each other, that has been a focus we have been trying to develop.

Both David and Debbie report valuing questioning and student thinking and relate those values to pre-service training including the edTPA and pre-service coursework.

Two participants discussed the importance of creating the right environment in their classroom to enhance their questioning techniques. Samantha said,

> Some of the questioning I have gotten a little bit better at – to help students build on each other's answers a little bit and to help students be able to create an environment where some of my classes—some of them are not—where they are building on each other rather than me helping them build on each other.

The incorporation of student-centered questions can be foreign to students who have not been asked to openly discuss their thinking in class. Students who are used to only responding to yes/no questions or being provided answers instead of thinking through a response may rebel against the teacher who constantly probes them with "why" questions.

Samantha and Mary expressed an interest in asking deeper questions and facilitating student discourse, techniques that would receive high-scores using the edTPA rubrics. Mary said that, as a veteran teacher now, she feels less stress to adhere to a set timetable for the curriculum, which in turn allows her to feel she can encourage deeper questioning and more dialogue in her classes. She stated that,

> [D]uring my student teaching I was so focused on I have to get through this in this lesson because I wanted to stay on pace with the curriculum and sometimes [not encourage discussions] because I would be worried about my timing. And now I can kind of play around with it; I want to have those conversations more than I want to complete the planned-out pacing.

Creating a classroom environment open to student discourse can sometimes take teachers weeks to fully obtain. In addition, allowing student dialogue and discussion around the content can be more time consuming than having the teacher explain the material. In some cases, teachers that feel pressure to follow a particular pacing guide for their courses may want to include more discourse in their class but do not do so out of fear they will not finish the course content.

Two participants noted that the extent to which their instruction was student-centered varies depending on the mathematics level of students in the class. In particular, when discussing the use of deep questions, Amy admitted that she demonstrates, "a little bias on when I do use it and when I don't use it." With her lower level Algebra class, Amy reported rarely asking deeper questions, but she "noticed that I tend to [ask deeper questions] with my higher-level students, and what I have noticed is that when I create questions for them they also have questions that connect to [other knowledge] as well."

Similarly, Abby admitted that she struggles to incorporate higher order questions in her lower level classes. She offered some self-reflection on her questioning technique noting:

> I definitely try and use the same questioning strategy still, but I have definitely found, and maybe this is something that I need to work on, that my students are a lot more needy— they just want to know the answer. They are not okay with exploring as much and that is probably something that I need to make a focus and perhaps something that I do a lot more in my classroom now because I think if I did it more now they would be more used to it.

Like Abby and Amy, Harry reflected on his own shortcomings around questioning, commenting that he too was trying to create an environment where students turned to each other for answers, as opposed to seeking them from the teacher. He noted, "I am not satisfying what they want to hear from me when they are asking a question. I kind of want them to hear themselves an expand on their own question and think about it. I feel like I kind of did that in my videos and that is something that I try and do a lot." Even though Amy, Abby and Harry said they have trouble questioning to increase student discourse, it is clear that they value student expression (a student-centered skill on edTPA) and that they are trying to make it happen when possible.

In the teacher-centered (i.e., low-scoring) category, three participants (Zoey, Piper and Adam) focused on superficially student-centered methods of engaging students, such as using equity sticks and calling on all students. In contrast to those in

the student-centered group, they did not reflect deeply on the quality of the questions they asked during the interviews. The other two participants, Fred and Susan, appeared to connect a lack of asking deeper questions to the level of their students. In her first interview, Susan noted how her district mentor "always wanted to critique me on my questioning saying that I was too low and my kids are not performing well. [But] this is the highest I can get them to perform." Similarly, Fred noted his personal disappointment in not asking deeper questions, however like Susan he seemed to place blame on his students, stating, "I don't ask deep questions. We are happy to get an answer. It is difficult to ask those probing questions just because a lot of our students are not going to get there. And so we try it when we can, and then we end up scaffolding all the way into the answer."

As a group, most of the participants demonstrated a desire to ask deeper questions that would facilitate student thinking during instruction, but at times reported that they struggled to implement such practices, in particular, with "lower level" students. Some participants specifically commented that university faculty also encourage the use of student-centered questioning techniques and this they struggled to differentiate if they learned or recalled the practice from their coursework or from edTPA. Still overall, participants realized the value of the practice and aimed to continue it during their current teaching.

edTPA Assessment task. As with both the planning and instruction tasks, participants reported current assessment practices that range from student-centered to

teacher-centered; that is, student-centered to low-scoring using edTPA Rubric 12 for assessment. On the student-centered side of the spectrum, five participants discussed how they either provide detailed feedback around student strengths and needs or that they strongly desired to do so but felt limited by other factors (this aspect is discussed later in this section. Only two participants fell into the teacher-centered side where they provided limited feedback to students. The remaining 12 participants fell into the middle, providing students with feedback on either their strengths or their areas of improvement. Table 3 summarizes the results below.

Table 3
Alignment between participants' reported feedback practices and edTPA Rubric 12. *

Scoring candidates current reported practice using edTPA Rubric 12: : *What type of feedback does the candidate provide to focus students?*		
Low-scoring (Level 2): Participants discuss providing general feedback (such as a check or an X)	Mid-scoring (Level 3): Participants discuss providing EITHER positive or negative feedback OR providing specific feedback to students	Student-centered (Level 4): Participants discuss providing BOTH positive and negative feedback OR their desire to do so (but feeling unable to do so)
Fred Piper	Harry Adam Samantha Zoey Cathy Abby David Amy Crystal Kon Mary	Phuong Elena Daisy Debbie Jessica

Note that neither Kate nor Susan is listed in Table 3 as they did not complete the second interview and their responses to the first interview did not discuss assessment practices.

edTPA Impact on Student-Centered Assessment Practices. The completion of edTPA appears to move some teachers towards the use of formative assessment consistent with student-centered pedagogy. In particular, eight of the sixteen participants that fell into the middle or high scoring categories for rubric 12 specifically discussed how completing edTPA impacted the way they viewed providing feedback to students and how they have attempted to continue implementing such student-centered assessment practices (i.e., those valorized by Rubric 12) on a daily basis. For example, Jessica stated:

> Before the edTPA I would just write a check mark and x. But the edTPA taught me to give more feedback on quizzes and tests and exit cards and I definitely do that. I will say that I will never write out how to do the answers. Instead the edTPA taught me—I usually write questions if they got something incorrect and kind of guide them to figure it out on their own and I think that really helps students in that they read the questions and they want to figure it out.

Amy added that her practice of writing detailed comments to students on assessments "was – from the edTPA – it is crucial for the students to understand why or how what they can do to improve, um, to improve the grade and to understand the concepts better." For Jessica, Amy, and the six others that mentioned the edTPA, completing

edTPA shifted their feedback practices towards providing more individualized, detailed feedback.

Barriers to student-centered feedback. In some cases, participants cited school or district policies that, while aiming to support student achievement, may also hinder opportunities to implement student centered practices such as providing meaningful feedback. Both Fred and Piper discussed policies in their classroom that limited the amount of feedback they provided to their students. Piper expressed that she did not provide much feedback for students who could re-take an assessment because she did not what to provide them too much guidance for the second attempt. Fred noted that in many cases he only graded assignments for completion as opposed to accuracy, and thus did not go through and provide feedback problem by problem as he did on his edTPA. There were several reasons given for not giving detailed feedback including lack of time and an uncertainty about how students would use it (as in Piper's case).

Desire to provide feedback versus time to provide feedback. Many participants reported not having sufficient time to use student-centered assessment practices valorized by edTPA, echoing sentiments about the lack of time for student-centered planning and instruction. In particular, half of the participants at Level 3 or 4 (Table 3) discussed their disappointment they had not yet found a way to provide detailed feedback like they had on their edTPA student samples. Their regret appeared to be stronger when discussing Rubric 12 than on Rubrics 3 and 8, as participants reported truly seeeing the value of providing detailed feedback to students. After reviewing her

own edTPA assessment task, Phoung noticed the difference between his current practice and his edTPA samples and said he did not have time to do it well.

> I don't have time for the positive praise or the commentary that I left on these student samples. And it makes me feel really sad because some of them were really good and they know that they used specific, different methods instead of if they just got it right. It made me sad that I cannot put in that quality anymore.

Similarly, other participants said that they do not have time because they have too many students. During her interview, Zoey examined the student samples she provided in her edTPA submission and noted, "I have a comment on nearly every single question and to do that with 180 students is unrealistic with everything else that you have to do. So, I think it's great if you have the time it's worth it. I think that the students get a lot out of it." Without adequate time, Zoey felt it was nearly impossible for her to do the valuable practice of providing detailed feedback to every student.

Samantha commented that her district has emphasized the importance of providing students feedback but tried to address the time crunch involved in giving meaningful feedback by suggesting teachers use numeric codes to stand for certain errors. Even with that technique, Samantha felt that having to provide differentiated numeric feedback on two graded items each week was too much for her to handle.

Unsure about student's use of feedback. Four participants in the mid- or student-centered range inadvertently connected their discussion of assessment to a the edTPA rubric that addresses student feedback, Rubric 13. Their comments appear to

show how edTPA could also be educative, as these participants reported recognizing the importance of meeting the student-centered practices that Rubric 13 promotes. The guiding question for Rubric 13 is, "*How does the candidate support focus students to understand and use the feedback to guide their further learning?*" This rubric is traditionally one of the lowest scored rubrics on the edTPA as pre-service teachers often struggle to create procedures for their students to use feedback. Some participants admitted they are still struggling with creating a meaningful process for their students to use their feedback. Abby admitted that she provides more feedback to her more advanced students because she believes they will read it whereas her less-advanced students will not. "How many Algebra II students have I given papers back to them and they immediately, immediately recycle it? It's like, 'Ok why did I even bother to give you all of this feedback when you are not even going to look?'"

In a similar fashion, Debbie said she tried to provide detailed feedback to her students but also noticed her struggling students used the feedback less frequently, as they get easily overwhelmed by negative feedback. Due to this, she often resists giving heavy, negative feedback even though it could be useful to the student. Both Abby and Debbie realized the importance of feedback but struggled to find ways for their students to use the feedback productively in order to better understand mathematical concepts.

Despite some barriers, it appears that most participants believed that providing students detailed feedback is a practice they should aspire to in their daily practice. Furthermore, for some candidates, the importance of feedback stemmed directly from

their work on edTPA, demonstrating the ability of the assessment to positively influence teacher practice.

Influencing Factors

Implementation literature in education has noted the important role a teacher's school or district can play in advancing or hindering particular pedagogical practices (Spillane, Reiser & Reimer, 2002). In both interviews, participants mentioned policies, procedures, or opportunities in their school or district that shaped their ability to use student-centered instruction, planning, and assessment practices valorized in edTPA. Some of these policies, such as teacher observations protocols being aligned with edTPA or districts offering professional development around high scoring practices, were mentioned in the sections above as they helped answer either the first or second research question.

This section examines additional participant responses on how local policies have influence on their use of high- scoring teacher practices and, in so doing, addresses the third research question. Participants identified some policies, practices, and opportunities at school and district level that have made it easier for them to continue student-centered practices in their current teaching. The interviews also revealed instances where school or district policies or practices may have hindered participants from implementing student-centered practices. These responses underscored the

multiple tensions teachers face within the classroom and how difficult it is to implement high-scoring edTPA practices even if they desired to do so.

School or district supports for student-centered edTPA practices. For some participants, viewing edTPA as an educative assessment was made easier because their schools advocated for the use of student-centered practices. Seven participants commented that their school or district's current policies or practices align with high scoring practices within edTPA, making it easier for teachers to continue the work they completed on the assessment. For example, Abby discussed how her school's formal school-wide improvement plan focused on increasing academic discourse within classes. This plan complemented her focus on student-centered edTPA practices like interaction and questioning. With support from the school, she also developed a deeper understanding of academic language, a practice also encouraged by edTPA.

Four participants reported that their schools encouraged teachers to consider the proper supports for their students, including knowing a particular student's strengths or needs. This idea ties directly with the focus of Rubric 3, planning for specific students. As Debbie described, "My school does a really good job of having the math teachers communicate about students. They get together to write recommendations for students and what qualifications they should be reaching to move onto the next class."

Another way that schools support high scoring edTPA practices is by providing teachers the opportunity to examine data together in professional learning communities. In addition to examining student feedback, edTPA Task 3 also focuses

on analyzing assessment results and using the analysis to impact future instruction. Abby commented that at her school such data sessions were "mandated by our administration or department…We look at how students did and we talk about this piece, this question they did well on this piece they did poorly on…It's definitely something we try and focus on – not for every single assessment but for the big ones."

At Crystal's school, the school administration's focus has been aligned with practices within edTPA for each of the past three years. For example, one year the focus was on writing and academic language, and as Crystal commented, "I would say that I learned about the language objectives and the importance of it when I was doing the edTPA. But it didn't really hit home and make sense until my school was really creating professional development around it." Another year, the focus was on strategically creating and using collaborative groups during lessons, which connects with Rubric 7 and group work. Crystal explained, "We have done a lot of work in our school on now just put kids in groups and call it 'group work' but actually have it be a collaborative structure where the kids are depending on each other and how they handle the work." A third year, Crystal's school chose to focus on the type of feedback provided to students, which aligns with Rubrics 12 and 13. Crystal described how:

> [A]s the resource teacher for our department we actually looked at how to provide feedback that is meaningful and timely. And I remember [my colleagues and I] talking about how feedback is not the same as advice. So, when I look at how I write feedback to give, I shy away, I am trying to not give

advice or a judgement. I am trying to give a sentence that states fact what the students did, and then leave it to them how to rework the problem.

These three initiatives at Crystal's school demonstrate the school's ability to focus teacher thinking on practices that are student-centered in edTPA.

In previous sections of this chapter, participants mentioned how their district encourages teachers to use student-centered questioning techniques. One way they demonstrate that they value better questioning is by offering professional development workshops over the summer. Both Zoey and Crystal referenced a Skillful Teacher course centered on questioning techniques and how that course reinforced the student-centered practices they saw in Rubric 8.

In examining the overall educative nature of edTPA, David referenced his district's use of Charlotte Danielson's Framework for Teaching (FFT). Literature on edTPA has connected the assessment to FFT (SCALE, 2014) and David, along with Samantha, concur with the literature. For example, Samantha used similar thinking for the FFT as she had when writing her edTPA. She described FFT as being "edTPA on steroids," adding that FFT "asks a lot of the same questions that edTPA asks."

David commented that the year he entered the teaching profession, his district switched over to the FFT. While some of the veteran teachers he worked with were nervous about the transition, David felt prepared for the new protocol having completed edTPA. He explained that edTPA

was very good at preparing me for the new way that teachers are being evaluated in the classroom…It really does kind of mirror a lot of what the Framework for Teaching is so you will be very ready for when you have those first formal observations as a new teacher and you can fall back on your experience of edTPA and have a comfort level of doing something like that."

County-wide teacher observation protocols like FFT that mirror edTPA encourage teachers to use edTPA-based thinking skills.

School or district policies impeding edTPA practices. While some participants discussed ways their school or district had policies in place that supported their ability to pursue high scoring edTPA practices, two participants, both of them from the same county, discussed instances in which policies conflicted with student-centered practices within edTPA. Though her county's FFT emphasis supported edTPA thinking, Samantha found that other policies in the county limit her ability to plan for individual students. After viewing lessons she created for edTPA, Samantha lamented the fact that she was unable to regularly use student-centered lessons due to a lack of instructional time. She said that in some cases, her instructional time was spent in school assemblies or similar school-wide events. In other cases, Samantha was pressured to use instructional time as test preparation for county-wide standardized tests. She explained that it was tough to balance "discovery time" (inquiry-driven instruction) and hands-on learning with the school's general "time crunch" created by her school's bell schedules and testing schedules.

Fred also shared some policies that may have hindered his ability to implement high scoring edTPA practices. Unlike Samantha, Fred never viewed the edTPA as an educative assessment that could impact his pedagogical practices as a teacher. He viewed the assessment as more of something that had to be done as a part of his teacher preparation program. However, Fred did bring up some school-based policies that could impact some student-centered practices. When discussing his reasons for not providing detailed feedback to his students, Fred cited that he only graded his student's work for completion as opposed to accuracy. Fred expanded on the reasons for his grading style, by adding that his school and his county's emphasis on 9th-grade promotion deterred him from providing detailed feedback for students who do not complete all of their work. He commented that an emphasis on promotion rate, or getting students to pass, meant that he was supposed to give credit for any effort towards completing homework, even if it was partially incomplete and thus inaccurate.

> So our schools are graded on promotion rate, and so there is tremendous pressure to promote the students …so I grade things on completion – if they turn something in that looks like they tried their work, they are getting credit. I don't typically grade their homework and their classwork and things like that on accuracy – that is not really a path to getting them to pass.

The county's pressure to promote students who submit incomplete or incorrect work led Fred to find himself in a situation in which he was unable to consider pursuing student-centered feedback.

edTPA not specifically addressed. One of the natural ways for those that completed edTPA to view the assessment as educative would be for school or district officials to discuss the assessment as it relates to their own pedagogical foci. Yet for all of the participants, most direct discussion about edTPA ended when they finished their teaching preparation program. With a few exceptions, colleagues at their new jobs did not talk about it. Those exceptions were three participants (Daisy, Cathy and David) who worked with new student teachers who had completed the assessment as part of earning their teaching credential. Four others said that they had mentioned edTPA in passing to colleagues when discussing National Board Certification. The other 13 participants did not talk about edTPA with colleagues.

As this section demonstrated, the lack of discussion about edTPA did not mean that schools or districts were not discussing or promoting student-centered practices. Fifteen of the 20 participants currently teach in a state that does not require edTPA for teacher certification which may explain why their school or district leaders had not referenced the assessment when discussing pedagogy. Yet some of those participants (e.g. Crystal, David, Samantha, Abby) shared ways in which their school or district promoted the same student-centered practices found within edTPA. It is a bit surprising that the remaining five participants teach in states that do require edTPA and yet they too did not engage in discussions about edTPA with actors at the school or district level.

Conclusion

One of the unique components of this study was providing participants opportunities to examine their actual edTPA assessment. In many instances, that experience helped participants realize that much of their current work around planning, instruction, and assessment can be tied back to that daunting assessment they completed at the end of their teacher preparation program. For some participants, examining their edTPA reminded them of ways they could still improve their current teaching by more consistently incorporating practices such as asking deeper questions to all levels of classes. Other participants felt hindered from implementing student-centered teaching practices by the realities of the daily grind of teaching or by their school environment. Yet overall, this chapter demonstrated that for nearly three quarters of the participants in this study, edTPA continued to impact their teaching career beyond its role as a summative assessment to determine initial teacher readiness.

Chapter 5: Conclusions and Recommendations

This study addressed the claim that edTPA can serve as an "educative" assessment that helps deepen pre-service teachers' understanding of student-centered planning, instruction, and assessment (SCALE, 2016). As part of this, practicing secondary mathematics teachers who completed edTPA discussed how and why they have or have not incorporated student-centered practices into their teaching routine that would receive high scores on the assessment. This chapter summarizes the study results, makes recommendations for schools or districts interested in using edTPA as an educative tool, and identifies area for future research on edTPA.

Summary of Results

At the broadest level, this study provides evidence that teacher performance assessments like edTPA can be educative. Eight of the 20 participants cited specific examples, such as questions on the edTPA commentaries that positively influenced their current planning, instruction, or assessment practices. Another seven participants said that the reflective process required for edTPA has influenced the way they reflect on their current practice. When given the opportunity to examine their own edTPA assessment, most of the participating teachers made detailed connections between the edTPA's student-centered vision of good teaching and their current planning, instruction, and assessment practices. These detailed connections pointed to the subtle or tacit ways that edTPA shaped their current practice. When discussing one of the

planning rubrics, Rubric 3, six of the 20 participants said their current planning methods mirror high-scoring practices—incorporating students' prior academic knowledge and students' personal and cultural assets. Seven of the 20 participants incorporate high-scoring practices from the student discourse rubric, Rubric 8, including providing opportunities for classroom discussion. And five of the 20 participants talked about how they either implemented or wanted to implement high-scoring feedback practices like those found in edTPA Rubric 12.

To different degrees and in varying ways, most of the participants reported that the educativity of edTPA was shaped by the contexts in which they have worked or currently work. For some, their current school or district provided either professional development opportunities or daily planning time so that they could better implement student-centered practices consistent with the edTPA vision. In some cases, the participating teachers wished they could more regularly implement specific components of edTPA such as videotaping themselves teaching and then reflecting on the video or providing detailed feedback on every student assignment. Other participants asserted that it is difficult, if not impossible, for them to carry out student-centered practices in their current school or district. Members of this latter group felt that edTPA's high-scoring practices were not replicable given the competing demands that practicing teachers face.

Study Innovations

This study is among the first studies to interview teachers who have been in the field at least two years after completing their edTPA. Previous studies of edTPA focused either on teacher candidates soon after they completed the assessment or first-year teachers. Studies in the former group are only able to speculate on the educativity of edTPA on future teaching. More often than not, participants in these studies viewed edTPA solely in terms of it being a challenging task that they had to complete as opposed to a tool that could keep improving their instruction (Baptiste, 2012; Dobson, 2013; Langlie, 2015). While first-year teachers could possibly share insights on how edTPA has impacted their teaching, most first-year teachers are in survival mode through at least the midway point of the school year. Many times, first-year teachers are being responsible for all instructional decisions for the first time, which leads to a focus on day to day decisions instead of incorporating pedagogical strategies (Liston, Whitcomb, & Borko, 2006). By including participants who have at least two years of teaching experience, this study attempts to account for other variables that could impact participant perceptions about edTPA.

Another unique aspect of this study was that participants were provided access to their original edTPA portfolios and asked to compare their work on the assessment to their current practices. In previous studies, participants were asked about components of edTPA without having re-examined their actual assessment (Baptiste, 2012; Dobson, 2013; Langlie, 2015, Lin, 2015). This scenario could enable

participants to either forgot aspects of edTPA or miss connections to their current work. By having candidates view their original assessment, this study helps alleviate potential lapses in memory as well as assists participants with drawing connections between their past and current practices that they may not have considered without examining their own portfolio.

Study Limitations

One limitation of this study is that it was not designed to disentangle the effects of edTPA from other programmatic effects. Despite finding that some teachers have continued to include particular high-scoring edTPA practices in their current work, it is not completely clear that completing the edTPA assessment led directly to the current implementation of those practices. Rather, while edTPA may have been an influence, such practices also may be a by-product of program coursework, student teaching experiences, or professional development in the school or district in which the teacher currently teaches. That said, perhaps this concern is unwarranted as edTPA should be integrated into program coursework.

A second limitation of this study is that all the participants came from the same program at the same university. While this may have made it easier to exclude certain variables that could impact teacher perceptions (e.g., the varied state of edTPA implementation in different programs), it also may limit the generalizability of the results to other universities or other states that use edTPA as a teacher assessment. The

results of this study serve as a beginning exploration of this topic and researchers or policy makers should be cautious about generalizing the findings to other districts of states using edTPA.

A third limitation of this study is that it only focused on three out of 15 rubrics from the edTPA. Focusing on other rubrics, or all of the rubrics, could yield different results about the educativity of edTPA. For example, Rubrics 10 and 15 addresses a teacher candidate's reflective practices, either after viewing their teaching sample or considering appropriate next instructional steps after analyzing assessments results. Including these rubrics as part of the study may have demonstrated how participants changed how they reflected about improving or changing their own instruction but would have not have addressed components of their planning, instruction, or assessment.

A fourth and final limitation of the study is that it only focused on participants' self-reported perceptions about the link between their current practice and edTPA. The study could have been strengthened by incorporating observations of participants' planning or collecting samples of participants' lesson plans or teaching episodes and then assessing them using the edTPA rubrics. Using observation data or evidence such as current lesson plans could reveal areas where participants may have missed connections between edTPA and their current practice, as well as reveal potential areas where participants may have stretched their connections in their conversations about the use of the assessment. Additionally, having samples such as student work or

observation would have enabled the application of some rubrics not included in this study. For example, Rubric 6 on classroom environment was not a part of this study as it is one that is more easily observed than described by a participant.

Areas of future research and policy suggestions

While the results of this study may be limited due to their scope, I believe some of the findings to be applicable to states, teacher preparation programs, and districts that have practicing teachers who completed edTPA. Policy decision makers at multiple levels can strengthen the continuum from teacher candidate to veteran teacher using edTPA as a educative tool for continuing student centered practices. Some policy suggestions are listed below:

Streamlined communication around edTPA. The findings of this study point to various opportunities for schools and districts to connect edTPA's student-centered, high-scoring practices with school or district expectations around planning, instruction, and assessment. For example, Jessica compared examining data during the assessment portion of edTPA to the current task of examining required quarterly assessments (RQA) as a cohort of teachers. In cases where teachers struggle with a particular practice, they may benefit from connecting to something familiar such as edTPA.

To more clearly align edTPA and school or district expectations, K12 schools and districts need to be educated about edTPA. Currently, teacher preparation programs may share information with district of school personnel about edTPA in hopes that the

information will be shared with teachers or administrators. However, the expectation that principals will share information about edTPA with mentor teachers or other school leaders has been seen as unrealistic (Gurl et al., 2017).

That being said, new teacher preparation accreditation regulations from the Council for Accreditation for Education Preparation (CAEP) emphasize the potential for partnerships between teacher preparation programs and the districts that serve as placements for student teachers. In particular, Standard 2 notes that preparation program and their partners "establish mutually agreeable expectations for candidate entry, preparation, and exit; ensure that theory and practice are linked; maintain coherence across clinical and academic components of preparation; and share accountability for candidate outcomes." (CAEP, 2013). Teacher preparation programs that use edTPA could map high scoring practices from the assessment with high scoring components of district observation tools to help demonstrate the cohesive transition from teacher intern to practicing teacher.

The challenge comes into finding the best way to engage PK-12 partners around edTPA so that they are neither overwhelmed by the assessment's tasks or rubrics nor ignore information about the assessment. In one example, a university used its PK-12 partners to participate in edTPA Local Evaluation, enabling a small portion of practicing teachers (100) to engage with the assessment. In addition, the university included information about edTPA in each of its mentor orientations. Survey results revealed how such interaction not only enabled PK-12 partners to better understand

edTPA and to better support their interns on the process, but also engaged the partners in professional development thinking about their own practice (Seelke & Gong, 2018). Universities under the pressure of high stakes implementation may feel the need to focus their resources on candidate success on edTPA as opposed to communication with its partners.

CAEP Standard 2 advocates for collaboration between teacher preparation programs and their district partners, however considerations must be made about the resources available to each program and the size of partner districts. Smaller preparation programs may not have as many readily available resources to foster collaboration as larger programs. This study demonstrates the possible need for dialogue between teacher preparation programs and their district partners around edTPA.

State education agencies that determine certification requirements could encourage more communication by placing a priority on the use of edTPA after hiring new teachers. Sixteen states have legislation in place that includes edTPA as at least an option (in some cases the only option) for completing a teacher performance assessment, which indicates that these states should emphasize the importance of the assessment to its local districts. In this study, five participants were teaching or had taught in so-called edTPA policy states (where completion of the assessment is tied to program completion), yet none of them were asked about or discussed their edTPA with their administration or hiring officials. If edTPA were important enough to be

added to a state's teacher licensure requirement, then it seemingly should be important enough to be discussed at the school or district level. State agencies could require dialogue about new teachers' edTPA achievements and growth opportunities, bringing the edTPA discussion to the district and school level.

Connection to induction. Since this study does not focus on first-year teachers, both the interview questions and the research questions did not address induction. However, in discussing the types of supports they had received during their teaching career, six of the participants mentioned induction, including observations from district mentors or consulting teachers. Scholars have noted how quality induction programs can help improve teacher retention (Carver-Thomas and Darling-Hammond, 2017). States such as California, Connecticut, and North Carolina all have created state-wide induction programs and all three of them are edTPA policy states. Nevertheless, only North Carolina's induction program, North Carolina New Teacher Support Program (NCNTSP), connects specifically to edTPA rubrics. If more states, particularly states requiring edTPA, were to follow in the footsteps of North Carolina, it is possible that more teachers would see edTPA as an educative assessment.

Future Research

Future studies can build on the results about the educatvitiy of edTPA through further examination of the connection between teachers' completion of the assessment and their current practices. Future studies could include collecting a cohort of teachers

who complete edTPA and comparing their official edTPA scores (overall, and by rubric) with comparable scores on their teacher evaluation process. Such studies might demonstrate a teacher's growth (scoring lower on the edTPA but using the information to score higher on the same measure as a practicing teacher) or a teacher's continued use of a high scoring practice from edTPA completion to practicing teacher.

As more states require edTPA for new teaching licensure, there will be opportunities to explore similarities or differences between students who took edTPA as a high-stakes state requirement versus those who faced less pressure to pass because of a lack of state mandate. One line of future research could compare and contrast teacher perceptions and/or impact of edTPA from a cadre of participants in a policy state with those that were in a non-policy state to investigate whether teachers who felt high stakes pressure around the assessment retained a different perception of the assessment's impact versus those who completed edTPA with lower consequences. Future interview and observational studies could use different rubrics, focus on just one task, or examine the entire assessment, in order to look at edTPA educativity from a wider range of perspectives.

In this study, school and district contexts were found to play a part in supporting or hindering teachers use of student-centered edTPA. However, this study relied on teacher perceptions and did not seek connections to structural differences among the schools like funding or student demographics. Future studies could focus on the

correlation between particular school characteristics, including funding, demographics, or curricular/pedagogical choices and the use of student-centered edTPA practices.

This study was also one of the first studies where teacher candidates were interviewed after viewing their actual edTPA. This process may have enabled participants to make clearer connections between their current practice and edTPA as they did not have to rely solely on their memory to recall components of the assessment. Future studies asking about participants about the impact of edTPA may want to incorporate similar practices so that they can not only remind participants about the components of the assessment but also so that participants can more easily compare or contrast the work they did in the past with their teaching practices in the present.

While this study examined the educative nature of edTPA and its impact on teacher practice, other studies have begun to extend the connection between edTPA and student achievement, Goldhaber, Cowan, and Theobold (2017) completed among the first validity studies of edTPA, examining edTPA scores in Washington State. The results of that study showed modest findings that going through the edTPA process can improve the quality of teaching in mathematics but was not statistically significant in reading. The authors add that "the extent to which the edTPA can 'support candidate learning and preparation program renewal' (edTPA, 2015) likely depends on the ability of TEPs to create feedback loops that allow candidate performance on the edTPA to influence the training they provide" (Goldhaber, Cowan, & Theobolod, 2017, p. 390). Future studies could look at the educativity of edTPA as related to certain rubrics (such

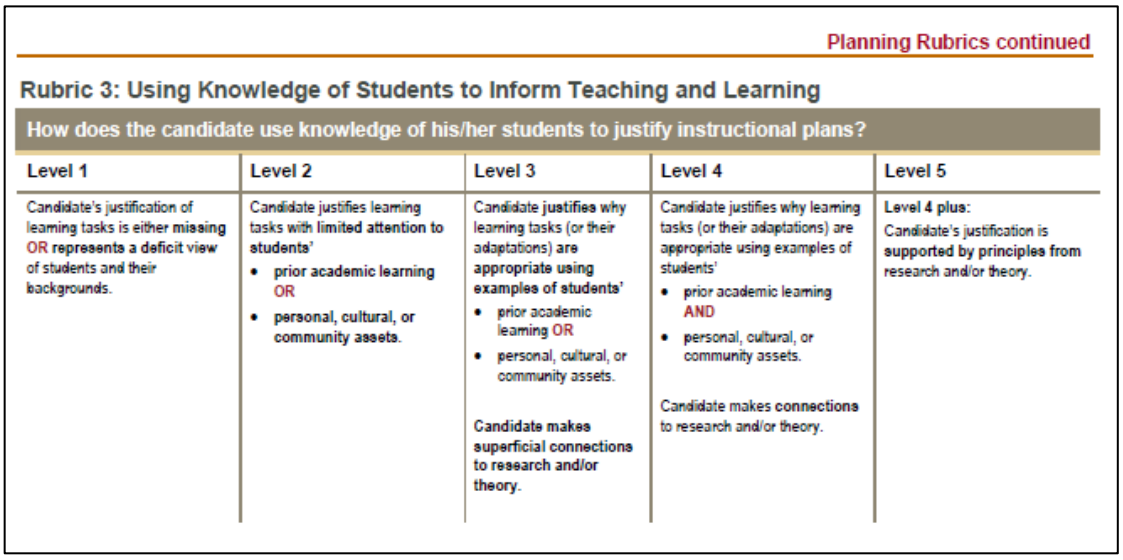
as comparing scores on edTPA to scores on observation tools) and then connect that data to student achievement. For example, if a candidate scores well on Rubric 8 and then similarly scored well on the same practice on their observation tool, does that lead to higher measures of student achievement.

Conclusion

As more teacher candidates are being asked to complete edTPA, policy makers have questioned if or how completing the assessment impacts their future practice. While studies have demonstrated that teachers completing the assessment for National Board Certification have demonstrated changes in their practice, few studies have focused on performance assessments for pre-service teachers. Through its collection of 38 interviews across 20 participants, this study shows that most teachers viewed edTPA as a tool that has continued to impact their current instruction. The study also demonstrates how school or district policies can either support or hinder teacher the use of edTPA student-centered practices. Finally, it offers opportunities for future research to see if edTPA will eventually be viewed as a tool for teacher growth as opposed to a component of compliance for certification.

Appendices

Appendix A. edTPA Rubrics 3, 8, and 12

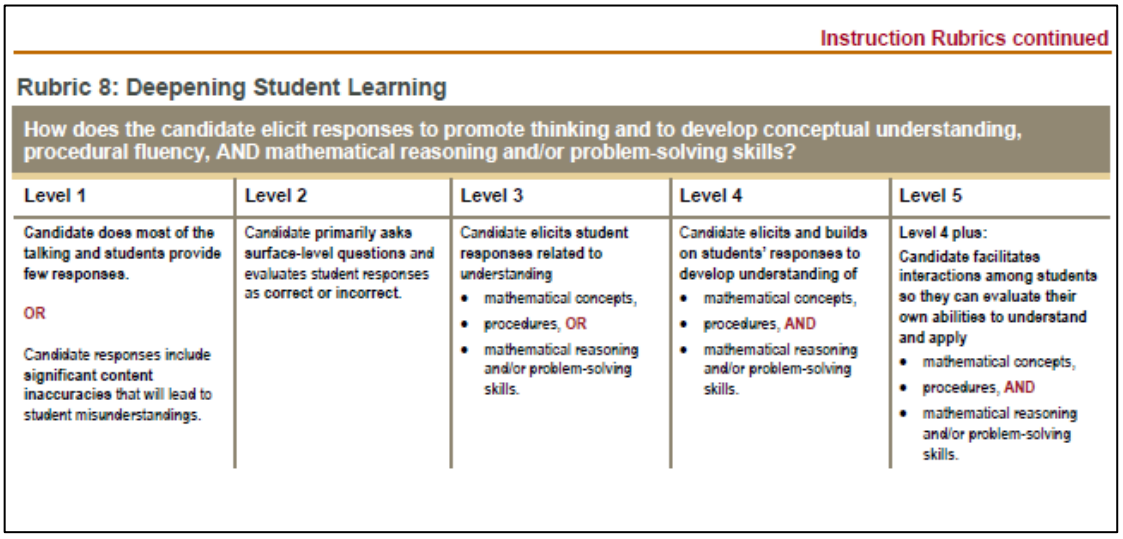


Planning Rubrics continued

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.



Instruction Rubrics continued

Rubric 8: Deepening Student Learning

How does the candidate elicit responses to promote thinking and to develop conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
Candidate does most of the talking and students provide few responses. OR Candidate responses include significant content inaccuracies that will lead to student misunderstandings.	Candidate primarily asks surface-level questions and evaluates student responses as correct or incorrect.	Candidate elicits student responses related to understanding • mathematical concepts, • procedures, OR • mathematical reasoning and/or problem-solving skills.	Candidate elicits and builds on students' responses to develop understanding of • mathematical concepts, • procedures, AND • mathematical reasoning and/or problem-solving skills.	Level 4 plus: Candidate facilitates interactions among students so they can evaluate their own abilities to understand and apply • mathematical concepts, • procedures, AND • mathematical reasoning and/or problem-solving skills.

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 learning objectives OR is developmentally inappropriate. 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 related to the learning objectives.	Feedback is specific and addresses either needs OR strengths related to the learning objectives.	Feedback is specific and addresses both strengths AND needs 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.

Appendix B. Classifying Candidates

Pseudonym	Grad Year	BS or MA	Passed edTPA locally on first try	Teaching in a state requiring edTPA	Years Teaching (as of interview)	Participant Profile (include Race, etc) in their information.
Daisy	2015	BS	Yes	Yes	2	Daisy taught at a suburban high school in the Midwest that she attended as a high school student. She taught Algebra II and lower-level Pre-calculus. She felt supported by her colleagues (she moved to another state after the interview to pursue a teaching position)
Phuong	2015	MA	No	Yes	2	Phuong taught one year in one Western metropolitan city then moved to another Western metropolitan area where she entered her second year of teaching. Gained a strong social justice focus from her first teaching job, which has transferred to her second job. She taught Algebra II and Geometry at her first placement (she did not have the schedule at her new placement when interviewed for interview I and did not discuss it in interview II)
Debbie	2014	MA	Yes	Yes	3	Debbie teaches in the suburbs of a major metropolitan Western city. She has taught there her entire time. As a first-year teacher, she was supported by a district mentor and has felt continued support during her career from colleagues and the district. She has taught Algebra I and Algebra II all three years.

Elena	2012	MA	Yes	No	5	Elena teaches at an urban high school in a suburb of a major metropolitan East coast city. Her school is very diverse, with a large ESOL population. She has taught multiple courses, mostly higher-level math courses (Algebra II, Pre-Calculus and AP Calculus AB).
Mary	2015	MA	Yes	No	2	Mary teaches at the school where she student taught (a large urban HS outside a major East coast city) so she felt she had built in support she may not have had if she had begun her career at a completely new school. In her first year, she taught Algebra I and a remedial course for seniors (statistics and mathematical modeling). This year, she teaches Geometry and AP Statistics.
Zoey	2014	BS	Yes	No	3	Zoey teaches in a large suburban high school outside a major East coast city. She has taught a range of classes from Algebra I and an Algebra I support class to Geometry, Algebra II and Pre-calculus. She shared specific organizational practices she learned from her mentor teacher that she still incorporates today.
Fred	2014	MA	Yes	No	3	Fred teaches in an urban high school outside of a major East coast city. He taught Algebra I, Algebra II, and Linear Algebra. Fred focused much of both interviews on the disconnect between how his students performed in math (poorly) and the students he student taught in a nearby county. He put much of the blame on administrators or other district policies.

Amy	2013	BS	No	No	4	Amy teaches in a suburban middle school outside of a major East coast city. Amy finished her degree in the fall, and then served as a long-term substitute before taking on a full-time position at her school. She has taught all classes at the middle school, from Math 6 to Geometry.
Adam	2011	MA	Yes	No	6	Adam teaches in urban high school in a suburb of a major East coast city. He has taught at the same school, teaching Algebra II every year, as well as honors Algebra II, Pre-calculus and other math classes. His state has specific end of year exams that he uses to inform his lessons.
Abby	2013	MA	Yes	No	4	Abby teaches in a suburban high school outside of a major East coast city. She has taught Algebra II as well as AP Calculus AB. Her county provides some resources for Algebra II which she uses as a baseline for her lessons for that class. For her AP courses, she relies on curricular materials from the College Board.
David	2012	BS	Yes	No	5	David teaches in the school where he student taught, an urban high school outside of a major East coast city. He has taught the Honors Geometry class, Honors Pre-calculus, co-taught Geometry and AP Calculus BC. His district uses the Danielson framework for teaching for observations.

Kon	2012	MA	Yes	No	5	Kon teaches in the school he student taught in, a large urban school outside of a major East coast city. He taught Geometry at the beginning of his teaching career but now teaches Pre-calculus and honors Pre-calculus. He relied on his resource teacher as a major support, particularly during his first year of teaching.
Crystal	2011	MA	No	No	6	After five years in the classroom, Crystal currently serves as her department resource teacher. She has been at the same school, an urban middle school outside of a major East coast city, since serving as a paid-intern in her MA program. She has taught everything from regular 7th grade math to Algebra and Geometry.
Piper	2012	BS	Yes	No	5	Piper teachers at an urban high school near a major East coast city. She has taught Algebra, Geometry and AP Calculus. During her interview, she focused on practical items she took from her student teaching (sample lessons, organizational skills) as opposed to pedagogical practices.
Jessica	2015	MA	Yes	No	2	Jessica teaches at an urban high school near a major East coast city. Last year she taught Algebra II and Geometry, while this year she is teaching Algebra II and IB Math Studies. She specifically noted having support from her colleagues and a district-wide mentor.

Harry	2013	BS	Yes	No	4	Harry teaches at a suburban high school near a major East coast city where he has taught Algebra I, Geometry and AP Calculus BC. He noted that his school has a new 1-to-1 program where all students have laptops. He also cited much support from his department chair.
Samantha	2014	BS	Yes	No	3	Samantha teaches at the school where she student taught, and she currently serves as department chair. She has taught 8th grade (regular, double period and honors). Currently she serves as the math department chair and recently completed her master's degree (online) in special education.
Cathy	2012	BS	Yes	Yes	5	Cathy first taught in a middle school near a major West coast city. Due to funding, she was riffed and changed to a second middle school. She then moved to another state, outside a second major West coast city. Over the three schools she has taught Grades 6-8.
Susan	2013	BS	Yes	No	3	Susan began her teaching career in one district at a suburban high school but struggled and was excessed. She then moved into a support role (mathematics support person) in a second district, a large urban district. She struggled during her student teaching career with the math courses as well as balancing her school work with outside jobs.

Kate	2013	BS	Yes	Yes	4	Kate began teaching at the school where she student taught, an urban high school outside a major East coast city. She taught there for two years, teaching Geometry and Pre-calculus. She recently relocated to another state, where she teaches high school in a small suburban district.

Note, Susan and Kate did not participate in the second interviews.

Typical Participant:

The typical participant graduated from State U with a degree in mathematics education and has been teaching for a total of three years at an urban high school in a state that does not require edTPA as part of its certification process.

Assigning Pseudonyms:

At the suggestions of members of my dissertation committee, I emailed participants in May 2017 and gave them a two-week window to send me names they would like to use for their pseudonyms. I did ask that their names maintain their gender but otherwise were open to the names they chose. Some chose names related to popular movies or television shows they liked. Others chose names that were more closely related to their racial identity. Eleven of the 20 participants sent me names. For the other nine participants, I chose pseudonyms that corresponded to their gender.

Appendix C. Interview 1 Protocol

Professional teaching experience

1. Please describe your full-time teaching experience (where you are teaching - including school, county). Subjects that you are teaching? If this has changed since you graduated from the University of Maryland, include all placements, subjects.

2. Please describe what impacts your work in the classroom - district expectations, school expectations (administration, department chair), standards and test preparation (CCSS, PARCC exams).

3. Describe any supports (or lack of supports) you have received in your full-time teaching (supports may include other teachers, department chair, administration, district supports, other related support). How have these supports (or lack of supports) impacted your teaching?

University Experience (non-edTPA specific)

1. Tell me about your student teaching experience - the school, the classes you taught.

2. Tell me about your coursework - which courses did you find helpful or valuable? Which courses were not as helpful or valuable?

3. Consider the different sources of support - your student teaching, your supervisor, your coursework. Which areas have you relied on more in your first years of teaching?

4. What things did you learn from your student teaching that you carried into your teaching career?

edTPA experience

1. Tell me about your experience with edTPA. What are your feelings or emotions connected to edTPA*?*

2. What do you think are the main goals and purposes of having teacher candidates complete edTPA?

3. How did your program prepare you to complete the *edTPA*?

4. How did the messages or principals of edTPA align with the messages/principals of your program?

5. Did edTPA relate to other aspects of your student teaching experience (your student teaching, your coursework, your interaction with supervisors?)

6. Has your understanding about certain terms (reflection, academic language) changed by going through the edTPA process? Has this understanding had any impact on your current teaching?

7. Suppose I was a teacher candidate that needed to complete edTPA and I came to you for advice about how the assessment would benefit me, what would you say? How do you think that completing edTPA may make you a better teacher?

8. Have you discussed with anyone about your edTPA experience?

9. If I have any follow up questions, would it be OK if I got back in contact with you?

Appendix D. Interview 2 Protocol

Task 1:

1. Let's consider your Task 1 of your edTPA. Please talk me through your thinking behind the lessons that you chose to use. What led you to choose those particular lessons?

2. Let's now consider the commentary in Task 1 of your edTPA. Please talk me through your thinking behind the answers to the commentaries.

3. After looking back at your edTPA, how do you feel that it relates to your current work? How is some of your thinking during Task 1 similar or different than your current thinking practices when creating lessons?

4. One of the dispositions edTPA specifically focuses on with planning is knowledge of who a teacher's students are, represented in planning in relation to student prior academic knowledge or student personal/cultural/community assets. Do you address this disposition in your current planning? Did this practice stem at all from your edTPA work?

5. Is there anything else that struck you in your planning task that relates to your current planning practices?

Task 2:

1. Let's now consider your Task 2 of your edTPA. Please talk me through your thinking behind the lessons that you chose to use in the video clips. What led you to choose those particular clips?

2. Let's now consider the commentary in Task 2 of your edTPA. Please talk me through your thinking behind the answers to the commentaries.

3. After looking back at your edTPA, how do you feel that Task 2 relates to your current work? How is some of your thinking during Task 2 similar or different than your current thinking practices when instructing? How does using and reflecting on video relate to current practices?

4. One of the dispositions edTPA specifically focuses on with instruction is asking deeper questions both on assignments and within the video clip. How do you address this disposition in your current instruction? Did the practice stem at all from your edTPA work?

5. Is there anything else that struck you in your instruction task that relates to your current instructional practices?

Task 3:

1. Let's consider your Task 3 of your edTPA. Please talk me through your thinking behind the assessment and the student samples that you chose to use. What led you to choose these samples and these students?

2. Let's now consider the commentary in Task 3 of your edTPA. Please talk me through your thinking behind the answers to the commentaries.

3. After looking back at your edTPA, how do you feel that Task 3 relates to your current work? How is some of your thinking during Task 3 similar or different than your current thinking practices when creating lessons?

4. One of the dispositions edTPA specifically focuses on with assessment is providing candidate feedback. How do you address this disposition in your current work? Did this practices stem at all from your edTPA work?

5. Is there anything else that struck you in your assessment task that relates to your current practices?

Appendix E. Sample Audio Transcript of Interview 1

Q (0:01) - Ok, so first question - describe to me your full-time teaching experience. Where you are teaching, including school and county, subjects that you are teaching, if the subjects have changed since you began teaching, include all subjects as well.

A(0:18) - Um, I am starting my fifth year at [James]* High School. This year I am teaching AP Calculus BC, Algebra I and Honors Geometry. In the past, I have taught Computer Programming, on level Geometry, Honors Calculus. Did I answer all?

Q (0:52) - Wow, a little bit of everything.

A - Yeah.

Q - And you have always been at James?

A - Yeah.

Q - Can you please describe what impacts your work in the classroom?

A - So is it district expectation, school expectations (whether your administration or your department chair), certain standards - test preparation.

Q - What things impact what you do on a daily basis?

A (1:14) - So this will be my first-time teaching Geometry since my first year teaching, so I can't really tell you much about that class. But with AP Calculus - obviously it's the AP test, and I have taken six or more of them, and I know a bunch of the free response. So with AP Calculus - that's what drives me. Administration doesn't play a role with AP, or counseling or anyone, because we have everyone take

the test - it's not an issue. Actually, for the first time we had two classes of BC - so me and my boss teach it. So she has been an awesome resource, because she has things that she has used.

And with Algebra I, it's been Common Core, obviously. I picked up Algebra I my second year of teaching, which was the first year of the Common Core rollout. And it was rough, they gave us a rough curriculum. And they fixed it in years since. And we used to be based on semester exams in Algebra I. Now we will be based on quarterly exams. And we are always the trail group because we are the lowest class - Algebra I in a high school, they are ninth grade - they are the lowest class. But we always do a trial of things. We did a trial of the quarterly exam last quarter - and I liked it. I think that it's more manageable for on level kids. I know some honors teachers are really upset about losing the semester exams because they feel that it prepares them for college.

Q (3:16) - Do you create the quarterly exam, or is it the team?

A (3:20) - No. It's the county. So the semester exams we never got to see. We only got to see a review. For the quarterly, we get to see it. but we have strict instructions - no cloning, no this or that. but it was just more manageable. So Unit 5 - it is on piece wise, absolute value, step - they had some hard stuff. So it was really helpful for us to see - do you have to write the equation, do you have to graph it, do you have to share a story. So they let us see that, so that way we teach it in the way we feel they want it

to be Common Core like. So for example, for step functions, they like it to be a story. Sorry I meant for piecewise.

Q (4:12) - So it sounds like some of the tests, or what somebody else wants to do, impacts the way that you would teach something.

A (4:21) - Yes.

Q (4:25) - Can you describe any supports or lack of supports you've received in your full-time teaching positions?

A (4:33) - My supports? My boss Susan* - she's not my boss, but she's my resource teacher. So she observes - I'm tenure now, but she has observed me. So now that you're tenured, you don't have to be observed? I think that it's every four or five years or something. I get a break - yeah, I don't know. She didn't observe me this year, but she was a big support. I taught Calculus since my first year. It was called Calculus Applications - it still is, but I just gave it up. It's hard to teach AP Calculus, and then teach another calculus. Because it's like - Come on man. And I remember loving my first year of teaching. I loved honors Geometry, because they are cute kids so hopefully I will love it again.

She has taught Calculus with me. She also teaches AP Java [computer science]. I taught computer programming I. She teaches computer programming II, which is AP, and Computer programming III. And she teaches AP Calculus BC with me. So she is like my mentee - they call me her. I do what she wants me to do. And it usually works out - the best career choices for me.

Q (6:05) - Are there any lack of supports or things that you wish that you had that you haven't had in your teaching experience?

A (6:17) - I think that everyone has slight discrepancies with administration. Like teaching Algebra I, I have the rough students. It's not common, but I think that every teacher, now and again, has that like, a rough student that gets under their skin, and you have to call security and follow up.

Q (6:44) - So I believe that [your county]has consulting teachers - discipline mentors?

A - Um, hum, yeah.

Q - Was yours supportive or not supportive?

A (6:53) - Yeah, sure.

Q - That memorable, huh?

A - I do remember once I was teaching U-substitution and I taught it in a way that was different from him - I don't divide by the coefficient if you don't have to. And he spoke up and said, 'You're teaching it wrong.' And I had to come back and I went through the problem and said, 'this is how I worked it out on my key.' And he's like, 'you're right.' And he told me to go back to the front of the class. And I almost cried. This was my first-year teaching. I went back up and said I was right. And I finished the worksheet and he never came again.

He just wrote me up a good review. It's a different way of doing it. It's just not the way my boss does it. Some people say you can do it this way and I said you can do whatever.

Q (7:48) - Cool. Anything else that you want to tell me about your professional teaching experience?

A (8:03) - No. I have had a new challenge every year. The first year, it was the first year. Second year, I took on Algebra I common core. Third year, I took on computer programming. Fourth year I took on AP. I am taking on Honors Geometry, but that's not really a challenge.

Q (8:30) - So we are going to shift gears a little bit and talk about your university experience in general, not related to edTPA or TPA.

A - Is this related to student teaching or more State U?

Q - So it's related to your education experience - your student teaching, but also your coursework, your supervisor, all of those type of things - things that are related to your, I guess, your degree. If you want to talk about the math courses you can do that as well, but you don't have to. (9:02) So, tell me about your student teaching experience - the school, the classes you taught? Yeah, let's start there.

A (9:13) - So I taught Algebra I and Geometry, which prepared me for the behavior, which in the beginning of my teaching career, I guess, I always thought that behavior was my weakness, but it's not anymore. I can handle - I am really lucky - my boss - I mean my principal - limits Algebra I classes to 25, if they go to 26, that is rare. So I

can manage 25 kids. So it definitely taught me with that - student teaching. I kind of wish I would have had a higher-level class, just to see what it was like. But I got that.

Q - And you were at Lincoln*, right?

A - Yeah, I was was Lincoln*with Ms. Jones*. She just taught Algebra I and Geometry.

Q - Were they both regular level or...?

A - One was Algebra I for students with special needs, two were on level Geometry (a certain amount) and Algebra I was science a tech - if they failed the placement test they had to take it. Generally, they were bright kids, but I remember the class would be about 36 kids. And I do remember it being intimidating having that many kids, and luckily that never happens to me now. It doesn't even happen to me in calculus.

Q (10:46) - So tell me about your coursework. Which courses did you find helpful or valuable? Which courses did you not find helpful or valuable?

A (10:58) - Can you give me some examples?

Q (11:10) - Well you take methods courses. Your junior and senior year you took methods courses. You took reading courses. You take diversity courses.

A (11:22) - Not reading. Not reading. Sorry.

Q (11:22) - No. no no. You took the seminar in the spring.

A (11:30) - So the methods which I took along with student teaching?

Q (11:31) - So you took methods in the fall, when you were doing one day a week. I think that Roger* taught that.

A (11:40) - Yeah, I liked that class. Sorry I don't remember the classes that well.

Q (11:42) - No. no. no.

A (11:47) - So obviously I am going to say Calculus, Math 141 and Math 142, were crucial because I now teach it. Honestly, 240 [Calc III], because my boss asked me to teach Calc III, but I said no this year. I said no for once.

Q - What about the other upper level math courses? Math 410 or Math 402?

A - No. I mean, I am qualified to teach statistics not that I want to. If ever that was the only thing that I could get, I took STAT 400. But no, not group theory. We don't have time. My BC Calc class is all year, but it's only 45 min. We don't have time for proofs. We just don't. If I go over homework questions - I usually have to limit that - and then teach the lesson for today to finish Calc I and II by May I don't have time to proof things, unless things like super easy theorems like the average value theorem. But it's cool that I can tell my students that I have a math degree. They are like, 'It's nerdy to like math, whatever.' And I am like, 'I majored in math.' And then they are like, 'Oh, well that's different because you are teacher and you're cool.' And I'm like, 'What do you mean? Nothing is nerdy about math. I was a math major.' And then they are like, 'ok.' And then I'll be like, 'Wasn't this cool?' when something worked out. And then they were like, 'yeah' - in calculus. I guess that it is the only reason I appreciated those classes.

Q (13:52) - So you have talked a little bit about your student teaching. Think about your sources of support during your student teaching - you had your mentor and your

student teaching experience, you had your supervisor, you had your coursework and your classes...So Alicia*, Robert*, and then courses that you had. Are there things that you might have taken from Alicia*, Robert*or a specific course that carried on into your first years of teaching. Specific advice, specific things you remember. Or maybe not?

A (14:39) - I remember that I saved documents and stuff, but I didn't teach Algebra I that first year. And I...that was four years ago. I am trying to remember. I am sure that I did.

Q (15:02) - So the other thing is that...

A (15:05) - One time for like three or four days in a row I had forgotten to go over HW. And Alicia*told me - finally, not finally, but after the third day. And I don't do that. I don't forget to go over homework. And I don't do that. Or I will say I don't have time today, I will do it tomorrow.

Q (15:34) - Anything else in terms of advice or certain things either? Anything that you sort of took from your student teaching experience as a whole that now you have applied? You know what...don't - if there's nothing, there's nothing. If between now and whenever you are in your class teaching and you are like, “Wait, I actually took this from...” then email me.

Q (16:08) - Anything else that you want to talk about in terms of your university experience? (16:10) – [Silence]...sounds like a very memorable one.

A (16:20) - I think that I put this on a survey somewhere. I know that I would have liked to have taken a technology course. Just because I started out with the Promethian, Active Inspire, everything was at my fingertips, …, but I picked it up quick.

Q (16:48) - Ok, so we are going to segue to talking about edTPA, which you have already warned me you may not remember that much, which is ok. Which could be a good thing. So first question - tell me about your edTPA experience. What are the feelings or emotions if you hear the term TPA or edTPA?

A (17:13) - I definitely remember it being a lot of writing. I remember that it was a good experience to video myself. I got to see myself. I don't remember that much.

Q - So you remember videotaping yourself.

A - And watching myself and wondering - did I rotate the right way? Did I check in with students? Just reflecting. It helped me to reflect.

Q (17:44) - What do you think are the main purposes of having teacher candidates complete this assessment? Why do you think we make them do it?

A (17:55) - What do I think are the goals? Well, what did we have to do?

Q (18:08) - Well, you had to write lesson plans. you had a learning segment (three to five lesson plans). You videotaped yourself. You collected student work. you analyzed student work. And like, you mentioned before that you did lots of writing because each one of those tasks had commentary for the writing. So why do you think we make teacher candidates do it? Please be honest.

A (18:42) - To make sure we reflect. I would say that I am a very reflective teacher. My mom was a principal. My sister is a teacher. So if I ever have a bad day, I reflect with my mom on why it went wrong. And like if I have to cry - I don't think that I have cried this year.

Q - Just this year?

A - Just this year. It definitely helped me be reflective. To learn to think about, what do I look like? If someone were to walk into my room and see me, do I look like I am rotating? Do I look like I am involved with students?

Q (19:38) - So how did the State U program help you prepare to complete edTPA?

A - You mean like the classes I took at State U help?

Q - Yeah, so the classes you took at State U. How did the classes? How did the student teaching? How did your supervisor? How did everything that was involved with the program?

A (19:54) - So you guys taught me how to do the TPA.

Q - So say more about that.

A - Like what goes online. What goes into it. When you have to reflect on it. When it's due. So we had some courses that talked about it.

Q - Were there anything besides the logistic pieces? Were there things like the teaching pieces? Or you have talked about reflection a lot - that you might have gotten from other pieces of the program?

A - I don't remember. I'm sorry.

Q (20:45) - Did it relate to any aspects of your student teaching? So in conversations with Alicia*about it? Or Robert*? Or your coursework?

A (21:00) - The idea of planning a lesson that someone is going to look over, and videotaping something someone is going to see. And analyzing. So I remember writing on student work to give specific enough feedback that they may understand. It just kind of taught you to teach as if someone is always watching - and someone could always be watching.

Q (21:36) - Has you understanding about certain things - you have talked a bit about reflection - has your understanding about certain things like reflection or maybe academic language changed by going through the edTPA process?

A (21:47) - Changed as from before?

Q - Yeah, so maybe before you went through it you thought of reflection or academic language as certain thing, but after going through it, this is how I view those things.

A - Yeah, I guess I never did think about using academic language in the classroom before, but now you properly explain it to me...is that what you mean?

Q - Yeah, sort of. Like if you are going to answer my question you are going to answer in complete sentences.

A - I guess you don't really think about that stuff - you don't think about that stuff ‘til you are student teaching or teaching.

Q - So that's fine. Are there expectations that you have now when you are in the middle of teaching that you might have gained, whether consciously or not, from doing this edTPA process?

A - Probably asking why. Like never letting someone just say an answer. The idea of whether it be every day (if its a non-level class), where you might have a lot of level 1, mixing in level 2, going for level 3. Where as in AP, I rarely have a level 2 honestly. So that's, that's good.

Q (23:42) - Ok, so here's a good one. So suppose I am a teacher candidate that needed to complete edTPA and I came to you for advice on how the assessment would benefit me what would you say? Be honest.

A (23:57) - Wait. Like that it's a graduation requirement. Well, that's one reason that it benefits me.

Q - But is there anything else, or are you going to be like, "You know what? You have to do it to graduate, so get it done."

A - It just helps you be a reflective teacher

Q (24:20) - Do you think that completing edTPA made you at all a better teacher?

A (24:30) - Yeah. How? Um, I mean just that idea of teaching as if someone else is seeing, is going to analyze your response or is going to see your teaching or is going to see your lesson plan.

Q (25:00) - I am pretty sure that I know the answer to this question, but I am going to ask it anyway. Have you discussed with anyone your edTPA experience or what edTPA was?

A (25:11) - No.

Q (25:11) - Anything else that you want to add about edTPA that comes to mind.

Q (25:20) - No. [End of transcript]

Appendix F. Sample Memo Check

Note: Identifying information about placements is changed for the Sample Memo Check

Summary S9

Current Placement: James* High School, [County 1]

Student Teaching Placement: Lincoln* High School, [County 2]

Theme 1: Outside influences on what one teaches (AP or Common Core):

From interview 1: But with AP Calculus - obviously it's the AP test, and I have taken six or more of them, and I know a bunch of the free response. So with AP Calculus - that's what drives me…And with Algebra I, it's been Common Core, obviously. I picked up Algebra I my second year of teaching, which was the first year of the Common Core rollout. And it was rough, they gave us a rough curriculum. And they fixed it in years since

From interview 1: So it was really helpful for us to see - do you have to write the equation, do you have to graph it, do you have to share a story. So they let us see that, so that way we teach it in the way we feel they want it to be Common Core like.

Theme 2: Mixed supports (RT offered support/CT not as much support)

From interview 1: My supports? My boss Katie - she's not my boss, but she's my resource teacher. So she observes - I'm tenure now, but she has observed me. *So*

now that you're tenured, you don't have to be observed? I think that it's every four or five years or something. I get a break - yeah, I don't know. She didn't observe me this year, but she was a big support…So she is like my mentee - they call me her. I do what she wants me to do. And it usually works out - the best career choices for me.

And he spoke up and said *You're teaching it wrong.* And I had to come back and I went through the problem and said, this is how I worked it out on my key. And he's like - you're right. And he told me to go back to the front of the class. And I almost cried. This was my first-year teaching. I went back up and said *I was right*. And I finished the worksheet and he never came again…He just wrote me up a good review.

Theme 3: Impact of being a math major:

From interview 1: If I go over homework questions - I usually have to limit that - and then teach the lesson for today to finish Calc I and II by May I don't have time to proof things, unless things like super easy theorems like the average value theorem. But it's cool that I can tell my students that I have a math degree. They are like, *It's nerdy to like math, whatever* And I am like *I majored in math.* 'And then they are like, *Oh, well that's different because you are teacher and you're cool.* And I'm like *What do you mean? Nothing is nerdy about math. I was a math major*.

Theme 4: Student teaching not that memorable (one story):

From interview 1: One time for like three or four days in a row I had forgotten to go over HW. And Alicia* told me - finally, not finally, but after the third day. And I don't do that. I don't forget to go over HW. And I don't do that. Or I will say I don't have time today, I will do it tomorrow.

Theme 5: Mixed feelings about edTPA (lots of writing/but positive about video and reflection):

From interview 1: - I definitely remember it being a lot of writing. I remember that it was a good experience to video myself. I got to see myself. I don't remember that much. *So you remember videotaping yourself.* And watching myself and wondering - did I rotate the right way. Did I check in with students? Just reflecting. It helped me to reflect.

From interview 1 (goals of edTPA): To make sure we reflect. I would say that I am a very reflective teacher. My mom was a principal. My sister is a teacher. So if I ever have a bad day, I reflect with my mom on why it went wrong. And like if I have to cry - I don't think that I have cried this year. *Just this year?* Just this year. It definitely helped me be reflective. To learn to think about, what do I look like?

From interview 1: "The idea of planning a lesson that someone is going to look over, and videotaping something someone is going to see. And analyzing. So I remember writing on student work to give specific enough feedback that they may

understand. It just kind of taught you to teach as if someone is always watching - and someone could always be watching."

From interview 1: It just helps you be a reflective teacher

Theme 6: Asking different questions from edTPA:

From interview 1: Probably asking why. Like never letting someone just say an answer. The idea of whether it be every day (if its a non-level class), where you might have a lot of level 1, mixing in level 2, going for level 3. Where as in AP, I rarely have a level 2 honestly. so that's. That's good.

Theme 7: Prior academic knowledge and edTPA:

From interview 2: "I definitely had too high expectations of Algebra I – that is for sure. I thought there were all of these connections that they could make and looking back now and realizing how minimal – I guess just for me having had all that math recently I felt like it was something they would know and be able to pick up on. I think that I did overestimate a bit with the abilities of Algebra I so I would do definitely more scaffolding.

Interview 2 (prior knowledge): In terms of prior knowledge I pretty much use the warm up to be an activator with anything that I would use for prior knowledge. With these students, I don't assume anything is fully grasped. In the beginning of the

year, for example, they don't put solving one or two step equations in our because it's supposed to be prior knowledge but I still spend time on that.

But I think the nature of that it just because I am working with a weaker group of students – so even if it was prior knowledge they are not the kind of students that would look through old notes and figure it out – they would rather have me do a warm up and recap it if that makes sense.

Interview 2 (prior knowledge): I just remember -I specifically remember thinking one time, one of the reasons I went to introduce factoring – I expected them to know and understand domain and range. I thought they already knew that. But now that I am in Algebra I that is an abstract skill that needs to be broken down.

Theme 8: Connections to current teaching practices:

Interview 2 (around planning): Oh, like how you did the teacher and the student column – I don't write it, but I still think all that, and I still try and think what their questions are going to be and I still try and think in advance what their weaknesses are going to be. So yeah, the stuff that I talked about – that stuff still happens in my head for sure when I am making lessons – it doesn't always happen on paper

Interview 2 (around assessment): in my video I noticed that I would spend one to two minute with a group, and when I was spending that one to two minutes I would have my backed turned. And now I feel like I do more planning on the front end –

normally I have – I don't know if your other schools have this – but I have an Educore – a senior that is good at math – she is kind of like an aid but she is there to help the students and she earns credit. I definitely would have planned – if I am working with one group have someone rotating – I noticed that I would get so caught up with the conversations with one group that if I were to do that right now I can totally imagine five other groups having conversations that didn't relate to math…I feel like I gave them the worksheet and just said work, and I was rotating but when I was rotating I was having such deep conversations with each group that I would be having 30-some students just working without. I think I would probably do more -just pull the class back together, give a quick summarization of what we learned from that, and then let them work again.

Interview 2 (feedback): Obviously on written assignments- anything that they turn in – I always give pretty good feedback. On some -I kind of have a policy – I don't know if you know, but in [County 1], you are allowed to re-quiz just about anything other than what the teacher sets the standard for. So actually what I do, one of my policies is if it's a quiz that's re-takeable, if a student is, um, like I don't give as much feedback because in order for a student to take my requiz, I expect them to make corrections so while I might give local feedback I am not going to say the answer is D, if that makes sense. Where as on tests, or something that is not retakable, I am definitely more thorough with my feedback on paper

Interview 2: It definitely brought me back to the – like I would say – in my teaching career I have had to balance the idea of discovery and the common core and also making it fit and finishing everything on time. So while every lesson isn't a discovery lesson, probably my first lesson for each type of thing has something related to that.

Theme 9 – Personal/cultural – building relationships:

So I find that the most beneficial thing that I can do is build relationships. So like I greet the students at the door, they are always welcome to come in at lunch – I ask them about themselves – like with the 9th graders they have a 9th grade team and I will reach out to other teachers on their 9th grade team…Occasionally I do if it's a word problem I will put something sports related, or something James* related, or the James* cheerleaders are selling candy bars for $5 apiece.

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