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Data-Driven Instruction Use for Residency II Candidates After Clinical Instruction

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Walden University
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Abstract

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MA, Walden University, 2011

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Residency II teacher candidates seeking education licensure at the southeastern public state university had low evaluation scores on their ability to provide feedback and modify instruction based on assessment. The purpose of this qualitative case study was to explore how 27 Residency II teacher candidates modified instruction based on assessment data during their field experience as indicated by the Tennessee Educator Acceleration Model (TEAM), Educational Teacher Performance Assessment (edTPA) Rubric 15 score, and self-reported qualitative surveys. The focus of the research questions included a conceptual framework for examining the level of assessment proficiency on the local and national assessments. The congruency of these three measures of data analysis addressed the courses and field experiences of Residency II clinical teacher candidates. The major findings were that teacher candidates were meeting expectations of the edTPA and TEAM; however, the preexisting teacher candidates' surveys indicated that there was a lack of satisfaction with their data training. Evidence indicated that the EDTPA and TEAM provided the quantitative measurements but did not provide the qualitative feedback to address any modifications in the instruction. The possible social change implications of this study involves the Residency II teacher candidates participating in an organized, 3-day workshop to have a purposeful experience where they learned collectively and enriched their field experiences while exceeding the required expectations of the edTPA and TEAM assessments.

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Dedication

I dedicate my dissertation work to my family and many friends. A special feeling of gratitude to my loving husband, Philip Short, whose words of encouragement helped me to pursue my educational doctorate. I am appreciative of my children and grandchildren who taught me the most valuable lessons.

I would like to acknowledge Dr. Benita Bruster, Chair of the Department of Teaching and Learning at Austin Peay State University, for her support and guidance during my research. Her direction and collaboration helped me to see this study through.

I dedicate this dissertation to my junior high school teachers who probably did not even know my name. I was one of the students who slipped through the cracks of the education system. I excelled, despite those educational gaps, to be a teacher who strives to know each one of my students because it makes all the difference.

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Section 1: The Problem

The No Child Left Behind Act of 2001(NCLB) required that every student's academic learning need must be met by the school district (NCLB, 2001). To identify each students' academic learning needs, it would appear that regular assessments of students' abilities would be necessary for teachers to identify students' knowledge and skills so that modifications to instruction could be made to provide the necessary scaffolding for each students' learning needs. The advantage of data-driven instruction was the ability to differentiate instruction based on the student's prior knowledge of the subject; however, a disadvantage was that the state curriculum and absence of organization challenges the teachers to align assessments and modify instruction. Real-time data involves more than standardized testing (Brown, Boser, Sargrad, Marchitello, & Center for American Progress, 2016). Daily informal assessments are beneficial for modifying instruction but require time. For students to reach their desired learning outcome, teachers and administrators must implement assessments that provide obtainable data (Kerns, 2013). Abrams, Varier, and Jackson (2016) described the challenge that teachers' encounter as a lack of establishment that supports the use of data.

The Local Problem

The federal legislation authorized comprehensive testing in U.S. schools, college students' mastery of federal accountability testing was found to be lacking appropriate evaluation in teacher preparation programs (CITE). Subsequently, there was a weakness in recognizing K-12th grade students' zone of proximal development from which to modify instruction (Ziberberg, Anderson, Swerdzewski, Finney, & Marsh, 2012). The

Tennessee Educational Teacher Performance Assessment (2016) indicated that Residency II clinical teaching candidates, who had completed a traditional teacher preparation program and were teaching in a regular classroom under the direction of a mentor teacher, were evaluated on their ability to use assessment to inform instruction. Based on mentor survey scores from cooperating Ready 2 Teach mentor teachers and school administrators, the ability to adjust instruction based on assessment findings was a score of 14.3% who disagreed and a 14.3% who did not know if Residency II clinical teaching candidates had met the expected task of modifying instruction based on data. Furthermore, Ziberberg et al. (2012) stated that training students on assessment accountability involves exact instruction and rectifying misinformation. Schools adhering to NCLB had to use assessment data to guide instructional practices; therefore, school administrators depend on teacher education programs to offer quality data-driven instruction courses (Ziberberg et al., 2012).

Hora, Bouwma-Gearhart, Park, and the Wisconsin Center (2014) stated that there was insufficient evidence on how using data effects instructional modifications and that understanding "educators' data use to make instructional decisions had led to practice-based research on how educators notice, interpret, and organize data in real-world settings" (p. 1). Modified instruction based on student assessment provides an understanding of the data training practices necessary for Residency II clinical teaching candidates (Mandinach & Jackson, 2012). Data-analysis skills and instruction can enhance teachers' abilities to regulate their instruction when addressing the academic learning needs of individual students (Gill, Bordan, & Hallgren, 2014).

Based on the study site university's collected data from the clinical teaching exit survey conducted in the fall of 2016, candidates reported that they were very well prepared during their field experience clinical. However, the concern was specifically focused on the area of being able to modify instruction based on assessment data and not the overall field experience. Means, Chen, DeBarger, and Padilla (2011) indicated that teaching candidates' average scores on task assessments were frequently low. In this study, the specific focus of concern was on two categories that support data-driven instruction in the classroom: (a) use of assessment to inform instruction and (b) student use of feedback. The state of Tennessee requires a comprehensive portfolio assessment for state licensing of all education majors (CITE). In the fall of 2016–2017, the university reported that the overall total mean score on the Educational Teacher Performance Assessment (edTPA) for the Residency II clinical teaching candidates majoring in elementary literacy kindergarten through sixth grades was a 43.3% for the university compared to a 45.3% national average.

Similar attention was given to the individual edTPA rubric scores, such as Task 3, Rubric 15, that require using assessment to inform instruction. The Residency II clinical teacher candidates majoring in kindergarten through sixth grade elementary literacy scored within the national mean of 3.3. The Effectiveness of Teacher Preparation Program (2016–2017), relative to the state average, indicated that 87% of Residency II clinical teacher candidates' education courses prepared them to assess student learning. However, Kronholz (2012) reported that few teacher-education programs address data-

analysis instruction, limiting the number of teachers to rethink their lesson plans based on data.

Residency II clinical teacher candidates indicated that communication had occurred with their cooperating mentor teachers during their clinical field experience to implement data-driven instruction on occasion, such as with the use of Measures of Academic Progress (MAP) data; however, there was limited routine examination of student performance. Based on the college of education school partner (i.e., the cooperating mentor teacher) mentor survey in 2015–2016, 9.8% of the mentor teachers disagreed that the Residency II clinical teacher candidates could analyze student performance based on assessments. In addition, 9.8% of the mentor teachers indicated that candidates could not adjust instruction based on assessment findings. Mitton-Kukner, Munroe, and Graham (2015) supported these findings by indicating that students enrolled in the college of education do not benefit from customary course expectations to facilitate the implementation of data into their instruction.

In addition, clinical supervisors used criteria to rate Residency II clinical teacher candidates' performance during their clinical teaching experience. The rating scale for the clinical evaluation was 5 for significantly above expectation, 3 for at expectation, and 1 for significantly below expectations. In a population sample of 46 candidates in the fall of 2016 data, assessment scores for Residency II teacher candidates majoring in kindergarten through sixth grade literacy met expectations with a score of 3.25.

Even though the edTPA scores give a strong indication that Residency II teacher candidates were within the national mean of meeting Task 3, Rubric 15 by using

assessment to inform instruction, the mentor cooperating mentor teachers reported that it was not practiced during the field experience. The differences between the cooperating mentor teachers' scores and clinical supervisors' scores raises questions about the exact skill being observed or measured during the Residency II teacher candidates' field experience.

Evidence of the Problem at the Local Level. In the state of Tennessee, the Offices of Research and Education Accountability (2012) conducted a statewide survey that indicated a gap between professional development (PD) in student assessment and differentiated instruction that the teachers believed they needed versus what they were receiving. While school districts specified that over the past 2 years 55% of educators received 10 or more hours of teacher PD in student assessment and differentiated instruction, 48% of the educators surveyed believed that they needed more PD in student assessment and differentiated instruction.

Furthermore, the significance of this case study was the impact of the findings on adequate teacher preparation in modifying instruction based on student assessment. Residency II clinical teacher candidates need to learn to make informed instructional decisions based on data that improve student achievement as measured by standard tests in the classroom. Based on the report, *Fast Start: Training Better Teachers Faster, with Focus, Practice and Feedback,* by The New Teacher Project (TNTP; 2014), college of education training programs include adequate coursework but fail to provide practical skills that new teachers can immediately utilize. The TNTP continued to emphasize that "too many new teachers struggle to reach their students because they lack the basic skills

to do so" (p. 10). Means et al. (2011) suggested academic leaders in education programs can gradually acquaint candidates with basic data-driven instruction by requiring their students to practice the skills of analyzing data as opposed to theoretical study. In fact, TNTP stated that teacher preparation programs were performance-based and seldom permitted teachers to acquire the skills through practice.

More research was vital to this case study because the Residency II clinical teaching candidate experience and self-reported efficacy reported by the university in using assessment data was inconsistent with the data reported by the State of Tennessee, Offices of Research and Education Accountability (2012). There was a tendency to cover vast subjective qualities of good teaching instead of precise fundamental skills that allow for teacher growth and development. Per TNTP (2014), "the responsibility for teacher development falls to districts that hire novice teachers…" (p. 1). Therefore, candidates may start their school year with a lack of basic skills that reach their students' academic learning needs. Based on the State of Tennessee, Offices of Research and Education Accountability, Residency II clinical teacher candidates' showed improvement in their scores after specific data training. Residency II clinical teaching candidates' data courses may focus on a few essential skills to practice and less involved theory, according to the State of Tennessee, Offices of Research and Education Accountability (2012).

The focus of NCLB was to direct schools toward a standardized set of goals, standards, and assessments (CITE). In an interview, the chair for the department of teaching and learning at the study site, who had published extensively on the implementation of NCLB in the state of Tennessee, stated that the effort to support,

facilitate, and enable decisions in the classroom was admirable; however, the urgency toward reaching this national effort placed unreasonable expectations on administrators and teachers. School districts were not adequately preparing teachers on implementing data in the classroom, and numerous teacher-training programs did not expect their teacher candidates to be educated in research-based teaching methods to graduate. According to the chair, locally during the NCLBo Child Left Behind era, the state of Tennessee was one of 34 states to receive a waiver from the federal education law issued by the U.S. Department of Education, and it was the only state to be extended 4 years of flexibility, allowing it to implement an accountability system and avoid the Adequate Yearly Progress index established by NCLB. The chair also voiced that the local attempt at preparing student teachers for data-driven instruction in the classroom had raised questions about the effectiveness of the currently implemented methodology for Residency II clinical teacher participants.

The state of Tennessee requires all teacher education programs to implement the edTPA for student teachers in lieu of the Principles of Learning and Teaching Praxis (CITE). The qualifying edTPA score for the state of Tennessee, beginning December 31, 2018, for elementary education math and literacy was a 42 out of 75, while the qualifying score by January 1, 2019 was 50 out of 75 (CITE). Based on the study site university's 2016–2017 data, the total mean score at the national level was 44.8 with a total sample of 22,429 education majors. The local university's total mean average was 46.7 with a total sample of 91 education majors. The area of focus relating to this study was the EDTPA Task 3, rubric 15 assessment that addresses "using assessment to inform instruction"

(Stanford Center for Assessment, Learning & Equity, 2016). The edTPA Task 3, Rubric 15 was assessed by confidential EDTPA scorers employed by Pearson, while the master clinicians and university supervisors employed by the study site university use the Tennessee Educator Acceleration Model (TEAM) to evaluate the Residency II clinical teaching candidates. The knowledge, skills, and attitudes of clinical teachers are scored using an assessment with the following levels: *significantly above expectations* (5), *at expectations* (3) or *significantly below expectations* (1). The master clinicians and university supervisors evaluated the 19 kindergarten through sixth grade 2016 licensure candidates using the TEAM rubric. Skill Assessment 10: The Teacher Knowledge of Students on the TEAM rubric attempts to address the edTPA Task 3, Rubric 15 standard and licensure candidates scored 3.60 on this question in the fall of 2016.

My goal with this qualitative case study was to promote a more structured plan for the Residency II clinical teacher candidates to collect and analyze data, and then modify instruction for select kindergarten through fifth grade students. The Residency II clinical teacher candidate would then demonstrate to the cooperating mentor teacher and clinical supervisors the ability to meet the edTPA Task 3, Standard 15.

Rationale

This study included three measures of data analysis training and implementation for Residency II clinical teacher candidates: (a) scores on the TEAM Assessment Rubric assigned by master clinicians and university supervisors conducting field observations; (b) scores on the EDTPA Task 3, Rubric 15 assessment; and (c) mentor teacher assessment. In addition, the preexisting data survey given after the Residency II teacher

candidates' field experience was conducted to help identify and explain their ability to modify instruction based on assessment data. My reasoning for conducting this study was bolstered by Bolhuis, Schildkamp, and Voogt (2016), who indicated that there was a disparity in how teachers take part in the method of using data to improve education.

The edTPA Task 3, Rubric 15 measures the abilities of teacher candidates to use assessment data to explain instruction that would better benefit student learning for the whole class and for individuals/groups with specific needs (Stanford Center for Assessment, Learning, and Equity, 2016). There must be significant time allowed to analyze student performance and modify instruction to better address those students who did not reach their learning goals (CITE). If the situation for the cooperating mentor teacher requires a specific time frame to address the curriculum and standards, then a time barrier may significantly limit the ability of Residency II clinical teacher candidates' to effectively modify instruction based on assessment data during the required 15 weeks of clinical experience that includes full days of teaching and observations.

The Residency II teacher candidates need regular opportunities to improve their strategies to use technology in student learning and achievement (U.S. Department of Education, 2016). The U.S. Department of Education (2016) stated that it was important that all teacher-training programs must prepare preservice teacher candidates to effectively select, evaluate, and use appropriate data technologies to advance student engagement and learning.

The local problem for this study was a question about the perceptions of Residency II clinical teacher candidates' ability to adequately analyze data to inform and

modify instruction during their limited field experiences. The U.S. Department of Education (2016) recommended a common language and set of expectations between educators in providing meaningful teaching and learning experiences. Cooperating mentor teachers need to be able to demonstrate for the Residency II clinical teacher candidate a common set of competencies, frameworks, and credentials that meet the classroom students' academic learning needs (U.S. Department of Education, 2016). If these common sets of competencies, frameworks, and credentials were not evident district wide, then barriers to implementing modifications to instruction limits the Residency II clinical teacher candidates during their field experiences.

Definition of Terms

Conceptual framework for data-driven decision making (DDDM): The use of data at the state and district levels that can promote a comprehensive outline to improve student achievement. The DDDM approach supports the incentives needed to make effective data use possible. The DDDM theory of action and organization explains the process from classroom to state superintendent's office on the types of decisions that might be informed by data, the types of data needed to inform different decisions, and the importance of data both relevant and diagnostic. (Gill et al., 2014).

Data-driven instruction: A method for improving student learning throughout the school year based on precise and systematic collection of data. Data-driven instruction includes assessment, analysis, and action during on a routine classroom instruction. It was an important scaffolding technique that supports student achievement. (Candal & Pioneer Institute for Public Policy Research, 2016).

Data skills: Implementing evidence-based practice to effectively use data to inform instruction. Knowledge of using formative assessment to transform data into information and information into decision-making (Gummer & Mandinach, 2015),

edTPA: A performance-based, subject-specific assessment of teacher candidates that measures teacher effectiveness (Goldhaber, Cowan, Theobold and National Center for Analysis of Longitudinal Data in Education Research, 2016).

TEAM: The degree to which teachers were successful in satisfying their objectives, obligations, or functions. Data were collected through individual teacher performance assessments through the collaboration of administrators and teachers to safeguard every day instruction. Frequent observations, constructive feedback, student data, and PD was necessary to support all educators in their endeavors to help every student learn and grow (Tennessee Higher Education, 2012).

Residency II clinical teaching candidates: This milestone identifies the curriculum and pedagogical framework for initial teacher education that links the theoretical, practical, and professional elements of teaching and learning for teacher development (TD) (Ure, 2010).

Significance of the Study

This study is significant because I identified any incongruence among three measures for the competency of Residency II clinical teacher candidates to modify instruction based on assessment data. If there was general congruence among scores for the EDTPA Task 3, Rubric 15, the TEAM Rubric for assessment, and the cooperating mentor teacher's evaluation of the Residency II clinical teacher candidates, then the

effectiveness of the teacher education program in preparing candidates to implement modified instruction was adequate. These measures may be useful tools in measuring this skill and knowledge in clinical candidates; however, if a disconnect was found among any of the three criteria, teacher preparation programs may need to reassess the validity of their evaluation measures and the quality of their teacher training in the use of assessment data. Unprepared candidates who attempted the use of assessment data to modify and individualize instruction during field experiences would negatively impact their preparedness. Evidence from a recent study indicated that the classroom teacher's effectiveness to implement formative assessment and evaluate the data can impact student achievement (DeNome, 2015). The results of this study may help to identify deficits in preparation for the effective use of data during the Residency II clinical teacher candidates' field experiences.

Research Questions

Residency II clinical teaching candidates often enter the student teaching field experience with anxiety over their ability to perform numerous classroom tasks at the level expected. Candidates have expressed confusion about the perceived differences in criteria between the EDTPA assessment and INTASC evaluation, and the skill to use assessment data to modify and inform future instruction was the area of most concern to the candidates. Their anxiety may be due, in part, to inconsistency among the evaluation criteria on the two instruments, specifically the individual scorers of the rubrics, the lack of preparation, and/or insufficient flexibility and time allowed to implement data-driven instruction. In an attempt to determine the level of agreement among the two mandated

evaluations in using data to guide instruction, I developed the following research questions to guide this study:

Research Question 1: How do the EDTPA Task 3, Rubric 15 scores compare with the school mentors' perceptions that clinical teaching candidates can use assessment data to inform instruction?

Research Question 2: How does the standardized EDTPA Rubric 15 assessment compare with the scores clinical teaching candidates receive from the TEAM evaluations?

Research Question 3: How do EDTPA, TEAM, and master clinician evaluations compare with Residency II teacher candidates' perceptions, and what possible weaknesses might this comparison reveal in the teacher preparation program?

Research Question 4: Based on the survey for Residency II candidates, what attitudes toward the usefulness of data-driven instruction emerge and what perceived skills do the candidates attribute to their preservice program of study?

I used three types of preexisting data instruments to collect data to address these research questions. The pre-existing data collected and organized by the Midwest university, College of Education Databook (2017-2018) includes the TEAM rubric (see Appendix B) completed by the master clinicians and university supervisors; the EDTPA Task 3, Rubric 15 (see Appendix C); and the mentor survey completed by the cooperating mentor teacher. The candidates completed the Residency II teacher candidates' survey (see Appendix E) during the project.

Review of the Literature

Introduction

To demonstrate the problem at the local, state, and national levels, I conducted a search for literature on Residency II clinical teaching candidate training in data-driven instruction. Four research-based studies were selected to provide insight on establishing a conceptual framework for implementing the collection and use of student data. The conceptual framework was the structure that I used to identify the key factors that support data-driven instruction. A range of searches were carried out in the ERIC, EBSCO, ProQuest, and Google Search databases to locate literature on the topic. Using the keyword search terms of *data, data-driven instruction, conceptual framework, differentiated instruction,* and *Residency II clinical teacher training* generated over 1,500 studies relevant to this issue. The ERIC database yielded around 56 articles using the search term *data-driven instruction,* of which 21 were found to be beneficial to this study. Using *Residency II preservice teaching candidates' training* as a search term in the ERIC database, I found about 393 articles, of which 13 related to this study.

Two national initiatives for understanding data-driven instruction were the INTASC, and Stanford University's edTPA. INTASC (2013) is a national education agency and national educational organization that is dedicated to the reform of the preparation, licensing, and on-going PD of leaders. INTASC focuses on the learning progressions that promote and improve teacher effectiveness and growth. The three developmental levels in the INTASC Model Core Teaching Standards and Learning

Progressions direct teacher candidates to understand what progressively effective practice looks like (Council of Chief State School Officers, 2013).

The EDTPA is a performance-based assessment designed to identify whether new teachers are qualified for a teaching career (CITE). The EDTPA program serves as a culmination of teaching and learning processes that documents and demonstrates each candidate's ability to teach her/his subject matter to all students (CITE). In its second year (i.e., 2016), the EDTPA showed that over 27,000 candidate portfolios were evaluated using five rubrics for each of the three edTPA core areas, including planning, instruction, and assessment (Stanford Center for Assessment, Learning & Equity, 2016). The same report indicated that, on average, the candidates scored highest on lesson planning and instruction, while lower average scores were reported for assessment and feedback to the students (Stanford Center for Assessment, Learning & Equity, 2016).

Previous researchers have studied data-driven instruction as an organization of students' strengths, challenges, and critical needs (Thompson, 2010). The classification criteria placed students into categories based on grade-level expectation (CITE). The most useful way to organize an item analysis was to concentrate on the student data because of interventions and modifications (Thompson, 2010).

Using multiple data sources, Gill et al. (2014) analyzed from the bottom up to gain an understanding of the data-driven instruction training of postservice teachers. The researchers used an investigator triangulation of varied sources to ensure comprehensive and consistent data at the federal, state, and local education levels since the implementation of NCLB. The purpose of their study was to recognize the findings of

adequate training from multiple researchers of data-driven instruction for postservice teachers. They found that the diverse perspectives regarding data-driven instruction were that teacher candidates lacked detailed training.

Conceptual Framework for Data-Driven Decision Making

Gill et al. (2014) suggested that the parameters that guide the conceptual framework for DDDM theory were that of action and organizational supports for teachers and administrators to act on implemented data. The DDDM framework explicitly informs three, step-by-step, sequential goals that could improve student outcomes (CITE). Gill et al. suggested that data infrastructure, analytic capacity, and the culture of DDDM be structured for consistency. Nonetheless, if this conceptual framework is not well-established by teachers and administrators, the data training of candidates may be an ambiguous learning effort.

To promote a data-driven instruction school atmosphere, Marsh and Farrell (2015) suggested that leaders support teachers with DDDM that implements a framework for understanding how to interpret and respond to data. Unfortunately, this data-driven instruction had been confined by administrators to only focus on high-stakes testing data that looks at the wide-ranging prototypes of students' performances and then targeting interventions (Mandinach, Honey, & Light, 2006). Subsequently, teachers' strategies often lack a systematic process in the daily instruction that addresses students' academic learning needs. Datnow and Hubbard (2015) stated that, regrettably, the capacity for data used was often not connected within the practice of instruction. To address these concerns, Crisp (2012) noted that the continuous examination of instruction, learning, and

assessment alignment in curriculum provides a stronger supported framework. Datnow and Hubbard concurred that successful use of data required teachers to acquire the knowledge and skills to analyze and use data to improve instruction.

Intermittent efforts by administrators and teachers to implement data-driven instruction may inadvertently ignore key statistical concepts like distribution, variation, and reliability (Mandinach et al., 2006). Consequently, if data-driven instruction was inconsistent, then Residency II clinical teaching candidates' field experiences to participate in the interactive and complexities of school decisions may result in an ineffective learning experience. To better equip candidates, Engin (2013) recommended a provision of questioning methods that support a data-driven framework, which can be a standard for trainers working with candidates.

Review of the Broader Problem

Data-driven instruction: Curriculum, instruction, and assessment. NCLB was the beginning for more frequent assessment of students' performances in math and reading based on data (Kronholz, 2012). Even though data-driven instruction began with NCLB, the yearly achievement tests did not help teachers tackle the students' learning gaps (CITE). Kerns (2014) stated that even though states had been required to develop high-tech methods of tracing evidence on student data, most of those states had overlooked the training of teachers and administrators on implementation of the evidence to adjust instruction. Programs, such as the response to intervention model (Stone & Tennessee Department of Education, 2016), included components to enrich data-driven instruction and the implementation dependability; however, very little research had

explored the scaffolding process that impacts the teacher's adoption of data-driven instruction (Dunn, Airola, Lo, & Garrison, 2013). Teachers struggle to gain an enhanced understanding of data concerning learning, so traditional coursework needs to be diverse and comprised of teacher-student and student-student discourse that assesses learning (Hershkovitz, 2015b).

Crisp (2012) suggested that a more precise boundary be made between formative and summative assessments that were planned to assist and test in-progress learning as well as integrative assessments be used to address tasks intended to learn further. Kerns (2014) proposed that real-time data were most valuable when addressing student academic learning needs and state standards. If the courses and instruction centered on data collection, then the probability of students' desired learning outcomes increased (CITE). Lange (2014) shared six methods to consider when implementing real-time data-driven instruction, stating that schools need to keep it simple, think small, analyze efforts, engage students, make progress visible, and be transparent with class results. Tomlinson and Javius (2012) suggested that it was essential for a teacher to be a methodical practitioner who repetitively contemplates classroom procedures, practices, and instructions.

Instead of relying on periodic, delegated state assessments to influence instruction, Cornelius (2014) rationalized that formative assessment had been credited with increasing student achievement when implemented as a systematic and continual process. The author also suggested that formative assessment provides enriched learning and an enhanced understanding of core content. To further support teachers with the

implementation of data-driven instruction, Mandinach and Jackson (2012) specified that collaborative inquiry was imperative to the use of data. Evidence has indicated that teachers working together demonstrated greater data literacy than individual teachers working alone on analyzing and collecting data.

It is imperative that schools realize that data-focused programs improve instruction, revitalize teachers' eagerness to teach, and increase professional fulfillment (Lange, 2014). Hora et al. (2014) stated that when incorporating data to inform academic assessments, active learning becomes commonplace in the classroom, demonstrating the efficacy of data-driven instruction. In an 18-moth research study, Quartz, Kawasaki, Sotelo, and Merino (2014) attempted to create a K-12 system of student assessment data that considered advanced foresight for simple student-centered instruction. Their study was conducted at a low socioeconomic community school that served about 1,000 students, 75% of whom were English language learners. The racial classifications of the students included 82% Hispanic, 14% Asian, 3% African American, and less than 1% White or Pacific Islander (Quartz et al., 2014). During their study, teachers conveyed, calculated, and assessed student basic skills affiliated with technology support and a common framework. The findings in their study indicated that after the 18-month trial, the school improved its capacity to assess data through collective problem-solving. The researchers and instructors worked together to manage the collection, accumulation, and use of data, and their efforts influenced thoughtful educational change; however, it required continued commitment over the years. Quartz et al. suggested that schools can

meet the challenges of accountability requirements with reliable, teacher-developed assessment systems.

Another example of the implementation of data-driven instruction was described by Hewitt and Weckstein (2012) as a school district implemented differentiated instruction using Tomlinson's "fire and light" comparison to recognize beneficial approaches in the classroom. Light symbolized endeavors such as PD, modeling, celebration, and teacher leadership, while fire represented intellectual differences that benefit those who need to understand data to modify instruction (CITE). Briggs (2012) provided insight into how schools can implement a framework that focuses on practices instead of student objectives, stating that the learning progression framework was an accountability system that offers methodologies to develop the day-to-day classroom practices. The author also suggested that data-driven reform was a valid method for refining student learning.

According to Darling-Hammond, Wilhoit, and Pittenger (2014), attempts to collect and analyze data within schools are essential tasks during the developmental stages of implementing a data-driven instruction process. Measures must be taken to further support Residency II clinical teaching candidates in the use of data-driven instruction in prekindergarten through fifth-grade student learning. Darling-Hammond et al. stated college- and career-ready competencies be examined for critical thinking and statistical analysis as well as communication and collaboration skills. Proposals for candidates were used to expand their aptitude to analyze, interpret, present, and collect data analytically regarding preservice teachers' impact on students' learning (CITE).

Ernest, Heckaman, Thompson, Hull, and Carter (2001) advocated that preparing teachers to meet the increased number of diverse learning needs of students necessitates that teacher training courses upgrade programs and field experiences. In a 2-year period study, Pella (2012) found that teacher accountability and professional learning involving data-inquiry includes a professional collaboration and shared a language. Pella's research focused on teachers participating in nine inquiry cycles concentrated on collaborative efforts to analyze qualitative data and enhanced their knowledge of an integrated pedagogy. Pella's theoretical frameworks addressed the concept that teachers and schools should be held responsible for student learning and that teacher PD standards should build teachers' aptitudes for data-driven instruction, finding that teacher education and PD standards that supported teachers in understanding data-inquiry must determine what are regarded as data for data-driven instruction. The results of Pella's study showed that a teacher's combined formative assessment throughout instruction could deliver direct data to drive pertinent, applicable, and instant direction. Killion and Roy (2019) emphasized that having this commonality gives teachers the skills to go beyond the surface and explore the complexities of data analysis that can enrich the knowledge for teaching. A data-driven framework of examining strategies can be a potential guide for training candidates (Engin, 2013).

Even though there was recognition for teaching assessment courses at the collegiate level, Mitton-Kukner, Munroe, and Graham (2015) stated that there were challenges of teaching assessment courses to Residency II clinical teaching candidates. The National Council of Teacher Mathematics (2012) provided nationally ranked teacher

preparation K-12 programs for the nation's states. The report focused on the preparation provided to teacher candidates from teacher training programs to use assessment data to improve classroom instruction. The sampling included 180 undergraduates and graduate programs housed in 98 institutions in 30 states. The objective of this report was to advance teacher preparation programs to concentrate on the significance of future teachers' knowledge and skills in the crucial area of assessment. A gap in school districts, states, and teacher preparation program determined that teacher preparation programs had yet determined what education a new teacher should have to enter a classroom with some capability for utilizing data to enhance instruction (The National Council of Teacher Mathematics, 2012). Assessment literacy, analytical skills, and instructional decision making were areas of knowledge that were necessary for teacher candidates to implement data in their instruction.

The methodology of this study focused on the sample population and coursework. The first domain in the study's findings that teacher preparation coursework covers 21% of the programs literacy topics adequately, with an additional 21% at partial adequacy. What was concerning in the study's second domain was that 29% of the undergraduate programs and 45% of graduate programs were deficient in providing analytical skills. The third domain of instructional decision making showed that 23% of undergraduate and 39% of graduate programs studied were completely inadequate. Of the teacher preparation programs reviewed only about 3% provided preparation that could be considered acceptable. Flores, Santos, Pereira, and Fernandes (2014) assessed aspects of quality Residency II clinical teaching candidate's education program but did not measure

quality learning opportunities for teachers. Their study focused on in-depth interviews of candidates' learning results based on the curriculum, the teaching and learning processes and practices. Consequently, the methods for both maintaining and assessing students' growth and the achievement did not reach the level of quality programs.

Importance of differentiating instruction. The benefits of implementing data with instruction supports teachers in their analysis of a class or student's weaknesses, allowing them to differentiate instruction corresponding to those weaknesses. Working with data was the central point for teachers to reach explicit, quantifiable objectives. Dixon, Yssel, McConnell, and Hardin (2014) validated that teacher's capability to differentiate instruction correlated to the number of hours devoted to PD in differentiated instruction. Also, scaffolding to accommodate the diverse learning needs of the students requires recognition of academic differences. A system that was consistent, integrative and constantly renovating ensures the learning outcomes with student gains in achievement. Engin (2013) recommended further that trainees need differing levels of support through various questioning to enhance their understanding of scaffolding.

In a case study by Ernest, Heckaman, Thompson, Hull and Carter (2011), research on how teacher education candidates used various assessments to apply a more systematic way to differentiate instruction in response to the diverse learning needs of the students was conducted. Because of the brief 5-week period of research, Ernest et al. stated that the study focused on a special education teacher's effective instructional strategy using evidence-based practices to guide instructional decisions. The theoretical framework comprising of evidence-based practices, permitted the teacher to monitor her

students' performances, by using data to guide differentiated instruction decisions. There were three distinct stages of data collection, data-based planning, and implementing differentiated instructional strategies. Data collection involved a preassessment of student's current strengths and weaknesses in a math class. In addition, it was necessary to conduct on-going assessment and goal planning for each student after the preassessment.

Empirical support for this differentiated instruction case study (Ernest et al., 2011) was best defined and supported by Tomlinson (2012) who stated that use of diverse methods was effective based on individual circumstances rather than vague application. The special education teacher employed Tomlinson's categories of content, product, process, and learning environments to impact her students' learning positively. Even though the differentiated instructional data was checked for credibility through triangulation and second level member checks, the teacher's evidence-based interpretations of the data could be subject to biases based on teaching situations. It was critical to understanding the necessity of an extensive range of data that needs to be effectively and continually collected in the classroom to differentiate instruction for student growth and achievement (Gregory & Kuzmich, 2010). In addition, analyzing and acting upon data can determine random and constructed grouping (Gregory & Kuzmich, 2010). When a teacher can differentiate, it was not about an involved, individualized assignment. Instead, it was about meeting more students' learning needs based on data (Turner, 2014).

Implementing student data helps teachers to differentiate instruction in a consistent and proactive approach that offers students' options to learn the same material. Grierson and Woloshyn (2013) revealed that small group collaboration efforts to analyze students' assessments facilitated a change in the teacher's instruction.

Tennessee education programs and standards. At the national level, the U.S. Department of Education's intent to collect and analyze the use of student data was to improve educational decision making. The United States Department of Education (2010) conducted a national survey of school districts that use education data to develop instruction and maintain accountability. The goal of this one year case study and survey was to identify the deciding variables that influence data-driven instruction in schools. In this study, sixty-five percent of the 12 districts that participated provided teachers with detailed practices on how to implement the use of data for instructional purposes. One aspect of data implementation that was evaluated in this study was the teachers' perceptions of the support received for data use. The data showed that 29% of the teachers felt that available data were not helpful in deciding what to teach. In addition, 54% of the teachers' perceived that there was not enough time available as part of a regular school day to use data. Even though 71% of the teachers felt that they had someone to turn to for data assistance, a systematic approach was still lacking. Teachers' instruction can improve through the collection, analysis, and use of student achievement data. A conceptual framework must be in place for data-driven decision instruction to be fully and effectively implemented (Gill et al. 2014).

Requisites and supporting provisions for data-driven include data systems, leadership for improvement and use of data, tools for generating data, social structures and time set aside for reflection on data, PD and technical support, and tools for acting on data. Improvements in the quality of state data analysis of student data and correlation between student outcomes were useful. The final report indicated concern for lack of data literacy skills among teachers (Gill et al. 2014).

The goal of the American Association of Colleges for Teacher Education (2016), was to prepare educators through high-quality, evidence-based training that guarantees educators were ready to instruct all learners. The important standards for this program include equity, high-quality learning, professionalism, diversity and accountability serving all learners. Johnson (2011) explained that one of the most important aspects that influence the success of schools and students was the training of preservice teachers entering the classroom. In her study, Johnson researched characteristics such as admission requirements, field experience, length of the program, delivery of program, and methodology to determine effective teacher education programs that foster successful preservice teachers. Johnson's (2011) research questions addressed aspects of effective undergraduate teacher education programs, as well as, what ways the program can better prepare candidates. She targeted graduates from private and public higher education institutions of Tennessee.

Teachers acknowledged the significance of hands-on field experience as being the most effective component. Johnson (2011) continued by stating the most effective teacher education programs were those that formulated a realistic portrayal of the

classroom setting. Such reference guides supported Johnson's emphasis on preservice teacher training, Making Good Choices (July 2016) supplemented the training of edTPA preservice candidates during their practice. Her qualitative research analysis indicated the importance of substantial hands-on field experience within a teacher education program. Johnson (2011) maintained the value of connecting a theoretical approach and content to a useful application in the classroom as precedence. She stressed that the significance of this study was to identify the multiple facets that influence the development of preservice teachers entering the classroom by reviewing six Tennessee higher education institutions.

At the state level, Tennessee Department of Education (2016) had made its mission to epitomize distinction and equity such that all students were endowed with the knowledge and skills to embark on their chose path in life effectively. The three key beliefs that corroborate their work were the following: build a competent state agency that serves as a delivery system to districts, support policies that remove bureaucracy and unleash innovation; and operate from an ethos of continuous improvement through measurement at every level. The Offices of Research and Education Accountability (2012) analyzed the alignment of K-12 education initiatives with concerns about educational performance regarding PD in the state of Tennessee. The analysis and use of student data were believed by many policymakers and educators to lead to better planning, resource allocation, student placement, and curriculum and instructional choices (Offices of Research and Education Accountability, 2012).

Tennessee Department of Education was endowed a 3-year, $3.7 million grant to apply a "longitudinal data system" for preschool through grade 12 (P-12). The purpose of the study was to collect, analyze, and use individual student data over several school years and multiple schools, tracking students throughout their academic lives. The Tennessee Higher Education Commission began a higher education database that later created a teacher education database. Tennessee used its Race to the Top funding to build its existing longitudinal data system and its value-added data system to make them more accessible and useful for teachers' data training (Tennessee Higher Education Commission, 2012).

One effort to curtail the lack of training with the clinical teaching candidates began with Tennessee Higher Education Commission (2012), which was created in 1967 to organize and cultivate unity regarding higher education in the state. The commission actively develops policy recommendations, programmatic initiatives, and partnerships that increase educational attainment while improving higher education success. One of the programmatic initiatives developed to assess candidates in Tennessee colleges and universities was the Educational Teacher Performance Assessment (2016). Stanford University and the American Association of Colleges for Teacher Education developed a program that provided teachers training with multiple-measure assessment systems affiliated with state and national standards. The goal was to certify that new teachers can teach each student successfully and advance student achievement (Tennessee Higher Education Commission, 2012).

Lange (2014) reported that recent studies provided evidence that data-focused programs made available to teachers can improve instruction, rejuvenates their enthusiasm to teach, and heightens professional accomplishment. The concern was that there were variables that had slowed the implementation of data-driven instruction. Lange explained that collecting reliable data take discipline and time. He stated that sometimes schools gather too much data making it a challenge to prioritize information and design curriculum changes. Steps that can simplify the process and make data-driven instruction work in the classroom begin with keeping data collection straightforward. Lange (2014) stated that the best way to engage students in their learning was to reflect on one class at a time and identify what strategies worked for that class. A teacher then can include one additional course at a time to track daily progress while communicating results can support a teacher's application of basic data-driven instruction in the classroom. To assess the level to which teacher education faculty were meeting the approved Education Preparation Providers (EPPs) in Tennessee, Lange investigated the teacher education program preparedness of teacher education candidates to meet the needs of all students, including those with disabilities based on data-driven instruction.

The implementation of data-driven instruction at the local elementary and secondary school level was significant as the Tennessee Educator Acceleration Model (2017) was one of the first educator evaluation systems that address comprehensive, student outcomes based on the collaboration of teachers and schools. The emphasis was on observations and data that allocate educators to address the growth of teachers' skills that lead to growth in student achievement. Another effort to address the teacher and

student's growth with the implementation of data was the Tennessee Board of Regents. The Ready2teach Program (2014) was a foundation centered on content knowledge that facilitates academic success inside the classroom. It promotes differentiated instruction throughout a lesson to meet the best-suited learning needs of every student. The goal was that common assessments of student achievement focus on improving college readiness and making effective use of these assessments for placement decisions in postsecondary education (DeMaria, Vaishnav, & Cristol, 2015).

Current residency II training standard. The Midwestern Tennessee University had currently implemented the Interstate Teacher Assessment and Support Consortium aligning the objectives for all education courses in the school of learning and teaching. The council of Chief State School Officers (2013) was a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education. The council proposes a set of model core teaching standards that outline what teachers should know and can do to ensure pre-kindergarten-12 students reach the goal of being ready to enter college or the workforce. The Interstate Teacher Assessment and Support Consortium (InTASC) having been the standards used by the teacher preparation program for this case study, functioned as the guidelines for preparing the clinical teaching candidates. The key instructional practice that was a key to this study was Standard #6: Assessment. The standard states that the teacher understands and uses multiple methods of assessment to engage learners in their growth, to monitor progress, and to guide the teacher and learner's decision making. InTASC assessments concentrated on personalized learning for diverse learners, a stronger focus

on the application of knowledge and skills, a collaborative professional culture and improved assessment literacy. The enhanced assessment literacy explains how teachers were expected to use data to improve instruction and support learner success by having a greater knowledge and skill on how to develop various assessments. InTASC addresses why it was vital that a preservice teacher learn how to use assessment data to understand each learner's progress. Ongoing formative and summative assessment can help train a preservice teacher on planning and adjusting instruction as needed. Why was important to understand about InTASC was that these standards were not for the beginning teachers but were professional practice standards.

Common language/model of data-driven instruction. A common educational language framework for educators promotes effective instruction. Educators can collect and act upon data to monitor growth regarding the common language and strategies. Abbott (2013) supported this mindset in The Glossary of Education Reform for journalists, parents, and community members, which was established to help anyone interested or invested in public schools to comprehend major reform concepts that build a stronger discernment of school improvement strategies.

In this specific study, Abbott (2013) defined the common pedagogy terminology and concepts that were significant in supporting data-driven instruction. It was vital that an evaluation system was put in place to improve Residency II clinical teaching candidate proficiency. No Child Left Behind Act (2001) school administrators and teachers with an explanation of the challenges of putting into practice the use of assessments to plan effective instruction. Summative assessments such as the Northwest Evaluation

Association (2015) created the Measures of Academic Progress (MAP) measurement scale that assesses students' academic performances helped outline the framework for data-driven instruction. This tool proposed a proficient and precise estimate of student achievement within a subject. The test scores help teachers plan differentiated instruction for individual students.

Implications

The first implication was that effective instruction relates to the teacher's ability to accommodate a student's learning needs by utilizing data. The master clinician's rubric (Appendix C) used by the university, requires the Residency II clinical teaching candidates to demonstrate knowledge of the students by anticipating their learning difficulties and provide differentiated instruction to ensure that children master instruction. Research indicates that understanding how to use data to inform instructional practice was necessary to improving student achievement (Anderson, Leithwood, & Strauss, 2010). The university's Clinical Teaching Exit Survey (Fall, 2015) indicates that 50% of the candidates were adequately prepared to scaffold and support the academic learning needs of students (Martha Dickerson Eriksson College of Education, 2015-2016). It was suggested that candidates reflect on edTPA Task 3 rubric by selecting three student work samples for detailed analysis and discussion using one assessment.

The second implication involved the teacher's effectiveness in analyzing assessment and reflecting on specific research or theory for considering successful learning strategies. A fundamental component to instructional context was flexibility in the curriculum and pacing agenda that permits teachers time to modify instruction based

on assessment data (Clune & White, 2008; Datnow, Park & Kennedy, 2008; David, 2008). The University's Clinical Teaching Exit Survey (Martha Dickerson Eriksson College of Education Databook, 2015-2016) indicated that 43.2% of candidates were adequately prepared to differentiate instruction to meet all students' learning needs (Martha Dickerson Eriksson College of Education, 2015-2016). However, based on the clinical teacher evaluations (Fall, 2015) candidates were on target with a 2.56 out of a possible 3 points for utilizing student achievement data to address the strengths and weaknesses of students and guide instructional decisions.

The third implication addresses the effectiveness of Residency II candidate training skills that would benefit from more practice and less theory approach. Even though 2.65% of the teachers felt overall prepared to be a teacher, only 2.35% of that same population felt adequate to use aggregated and disaggregated assessment data to make an instructional decision and evaluate student learning.

The goal of the project was to develop a curriculum plan that includes materials to implement and evaluate a selected elementary student's assessment data for both the cooperating mentor teacher and Residency II teacher candidate. The cooperating mentor teacher and Residency II teacher candidate would be trained based on edTPA curriculum assessment that requires modification of instruction based on assessments during the Residency II field experience using Lange's (2014), *Six ways to promote data-driven instruction in K-12 schools.* These steps include the following: keep it simple, think small, analyze efforts, engage students, make progress visible and be transparent with results. With this approach in mind, the cooperating mentor teachers and candidates can

better communicate, define and understand the expectations for data collection, analysis, and instruction. Also, the goal was to prepare candidates on how to implement data-driven decision-making skills into their instruction. The DDDM theory of action and organizational supports was a researched tool implemented throughout candidates training courses on writing lesson plans. In addition, during the candidates' field experiences they can practice these skills by focusing on one student's progress during their teaching.

Summary

An exploration of the effectiveness of data-driven instruction for student teachers after clinical instruction indicated low achievement when planning and designing instruction based on the edTPA' s Task 3, Rubric 15 standard. The general dilemma in this case study was the deficit of requisite knowledge of assessment data terms and concepts student teachers need to implement data-driven instruction. Research (Flores, Santos, Pereira & Fernandes, 2014) indicated that data skills and data-informed decision-making courses had not provided adequate training for student teachers. The focus in educational training at the university's college of education had been an emphasis on the implementation of edTPA's Task 3, Rubric 15 practice.

In this study, an attempt was made to verify and validate how the multiple sources of similar data may be inconsistent in measuring (a) the perceptions of Residency II teacher candidates in the instruction they had received to collect and use student data for modifying instruction; (b) the assessment rubric scores for Residency II teacher candidates on the TEAM Evaluation; (c) edTPA Task 3 Rubric 15 scores. The sample

consists of Residency II candidates at a mid-size university in Tennessee. The self-reported survey data was triangulated with TEAM evaluations conducted by master clinicians, university supervisors and mentor teachers completed by the mentor teachers, and the edTPA Task 3, Rubric 15 scores.

Section 2: Methodology

Qualitative Research Design and Approach

The purpose of this study was to explore the Residency II teacher candidates' ability to modify instruction based on assessment data during their field experience as indicated by the TEAM, EDTPA Rubric 15 scores, mentor teacher assessments, and self-reported qualitative surveys (see Appendix E). The methodology I employed in was a qualitative case study designed to further understand the Residency II clinical teaching candidates' EDTPA Task 3, Rubric 15 experience.

My goal with the selected qualitative case study design was to develop new knowledge addressing the implementation of Task 3, Rubric 15, TEAM assessments and qualitative surveys of the candidates' perceptions of their ability to use data to modify instruction during field experiences. In the case study approach, either primary or secondary data provided a complete means to understand how the different data sets compare with each other and the research (CITE). In addition, the case study method involved intensive analysis of individuals within the Residency II clinical teaching program.

I also considered the grounded theory research design as an option for this study; however, I found this approach unsuitable because of the structured interviews it required that could have led to an intense involvement in data collection as well as a challenge to analyze the resulting data. The correlational, quantitative research design could have helped define the relationship between the candidates' ability to implement Task 3, Standard 15. My concern with using the correlational design as an instrument to measure

the variables was that it would be too time-consuming for this study. In addition, tying the data directly to gaps in the teacher preparation program may have proven to be a challenge due to variables, such as instructors, instructor methodology, variation in coursework, and student teacher placements.

Therefore, I conducted a qualitative case study with the Residency II candidates in their educational setting, promoting trust and confidence between the department chair and participants. This approach was extensive because the preexisting data (i.e., TEAM rubric evaluations, edTPA Rubric 15 scores, and mentor teacher assessment and qualitative survey for Residency II teacher candidate data) were available at the project site and could be used to address the research questions in this study. Familiarizing myself with the data, I identified initial patterned ideas. The frequency of responses on the Residency II teacher candidates' qualitative surveys were also identified, coded, and collated in a systematic approach that related to the data sets and addressed Research Questions 3 and 4. I searched the resulting data for potential themes that related the data sets to the qualitative surveys.

One limitation of this study was a low response rate to the Residency II teacher candidate qualitative survey compared to the sample size for the edTPA Rubric 15 scores, TEAM rubric evaluations, and mentor teacher evaluations. The responses to the qualitative surveys were anonymous, and I descriptively compared the common themes with the group scores on the edTPA rubric. The data still provided sufficient to support conclusions based on the themes identified in the edTPA Rubric 15, TEAM rubric, and mentor teacher evaluations. According to Crisp (2012), analytical assessments are

intended to aid in the modification of curriculum enriching both current and future learning. Assessments are not regulatory tools, they indicate the importance of data-driven instruction for candidates. My data analysis approach comprised of relating the data to the research questions to identify and define the specific themes.

Creswell (2012) stated that constructivist worldview philosophy involves interrelated concepts and ideas. Instructors (in this case, student instructors) practice research by following steps to identify a problem through measures that cultivate individual meanings of their instructional experiences. The emphasis in the instructors' research was to expound on a theory or pattern of significance that concentrates on the intricacy of assessments. Per Creswell (2012), the purpose of data relies as much on the instructors' understanding of instruction as well as data collection. Levy (2015) indicated that concentrating on the instructor's perspective through a series of qualitative methods and data-collection is instrumental to instruction.

My justification for this qualitative case study design was to construct new knowledge that addresses the adequate training of Residency II teacher candidates, and the approach taken gave insight and clarification into the research questions. Conversely, Hora et al. (2014) raised the concern that the implementation of using data to inform instructional decisions may not be advantageous to instruction and learning. The complex process of deciphering raw data into usable information and actionable knowledge is a challenge (Hora et al., 2014). Therefore, the simplicity of Lange's (2014), *Six ways to promote data-driven instruction in K-12 schools* was so necessary for Residency II teacher candidates' modifying instruction experience. Ownership of this

generic tool that encompasses an organization of collected, examined, analyzed, interpreted, and applied data to differentiating instruction (Mandinach & Jackson, 2012) was beneficial to the process (Shepherd, 2014). This ownership requires a constant effort in the teaching community to decode and apply data on a more frequent basis.

Background of the Study

The study site university's Department of Teaching and Learning includes master clinicians and university supervisors who share their expertise by teaching field-based courses and working with teacher candidates during their Residency II evaluations. The master clinicians and university supervisors prepare and equip the Residency II candidates' writing, academic language, EDTPA preparation, and video production. The clinicians were trained using the TEAM that was implemented by the school districts in Tennessee. The TEAM was research based on performance standards and developed through collaboration between the Tennessee Department of Education and the National Institute for Excellent in Teaching. The research used to generate the TEAM included Milanowski, Odden, and Youngs (1998); Danielson (1996); Rowley (1988); and Schacter and Thum (2004). In addition, the work reviewed included guidelines and standards developed by INTASC (Tennessee Department of Education, 2017).

Participants

The participants selected for this study were 28 teacher candidates who completed their kindergarten through sixth-grade interdisciplinary studies degree program at the mideastern state university's Department of Teaching and Learning during spring 2018. The sample size of 28 participants for this qualitative study was sufficient because the

Residency II clinical teaching candidates' interpretations and experiences with modifications of instruction based on assessment were probed in-depth (see Baker & Edwards, 2012). Table 1 displays the demographic characteristics of the candidates enrolled in the program during the fall 2015 and spring 2016. The Residency II teacher candidates in the spring of 2018 demographics had similar 2015 demographics (Table 2).

I ensured participants' privacy and rights by adhering to policies of the IRBs of both the participating university and Walden University. The terms of the data use agreement included protecting the individuals' confidentiality by using anonymous data. The preexisting data, including EDTPA Rubric 15, TEAM Rubric, mentor teacher evaluation, and the qualitative survey for Residency II teacher candidates were provided by the study site college of education with no direct or indirect identifiers other than the year of completion. Electronic data were password protected to maintain confidentiality. Limited access to identifiable information was securely stored within a locked cabinet in my locked office within the Department of Teaching and Learning. All electronic files were stored on my password-protected computer in my locked office within the department.

Participant Access Procedures

To gain permission to research from Walden University, I completed the required CITI ethics training. I was then approved by Walden University's IRB Board (IRB Approval No. 07-16-18-0222826). In addition, I had to complete the southeastern university's training in Basic Human Subjects: Social and Behavioral CITI ethics training. Once training was completed, I gained approval from the southeastern

university's IRB to research at their institution (No. 17-063). I gained permission from the southeastern university to research until October 24, 2018. If extended time had been needed, I would have had to complete the continuing study form.

Once approval was gained from both the southeastern university and Walden University, I could begin organizing the already collected data from the Department of Teaching and Learning. The collected data included the EDTPA scores, TEAM evaluations, mentor teacher evaluations, and the qualitative surveys completed by the Residency II teacher candidates in spring 2018. It was advantageous to to utilize data already collected by the Department of Teaching and Learning to conduct my study.

Ethical Protection of Participants

Even though the Department of Teaching and Learning had collected all of the data, it was still important that I follow the necessary steps to protect the confidentiality of the Residency II teacher candidates. It was also important that I conducted the study following a code of ethical professionalism to maintain accountability (see Maxwell, 2017). All data were provided with no names of the Residency II teacher candidates to protect their privacy. The EDTPA, TEAM, and mentor teacher data were organized in the college of education data book so that no identification of the students' identity were made known to me. The Department of Teaching and Learning organized and conducted the qualitative surveys at the end of the Residency II teacher candidates' residency field experience. Residency II teacher candidates participated in the qualitative survey on a volunteer basis. There was no coercion or compensation for participating in the qualitative survey.

Researcher-Participant Relationship Methods

It was my obligation as a professional to self-regulate my research study as a second-year instructor by not collecting data for the Department of Teaching and Learning during this time (see Maxwell, 2017). The edTPA, TEAM, and mentor data collection was conducted by the college of education for the end of the 2017–2018 year report. The department chair of Teaching and Learning used a graduate assistant to hand out the Residency II teacher candidate qualitative surveys at the end of April 2018. My research study did not take place until after I received IRB approval in July 2018. During this time, I did not correspond with the Residency II teacher candidates regarding their qualitative survey responses.

Data Collection

I included both preexisting data and surveys to guide my research study on the 28 teacher candidates' ability to implement data-driven instruction during their field experiences. Quantitative instruments were used to assess the candidates' abilities to demonstrate the data skills; therefore, my goal was to use qualitative measures to further understand the teacher candidates' self-efficacy and how it correlated with the quantitative measures. The TEAM was developed by the National Institute for Excellence in Teaching (2007), and the EDTPA was developed by Stanford Center for Assessment, Learning and Equity (SCALE) in 2009. I designed the survey based on the TEAM and EDTPA rubrics to help establish a correlation of understanding with the quantitative scores. The survey helped me delve deeper into comprehending the teacher candidates' perceptions about the data-driven instruct skills.

Table 1

Demographics of the College of Teaching and Learning Participants, Spring 2017

Group		
Gender	Male	15.9%
	Female	79.7%
Race/ethnicity	African American or Black	5.7%
	Asian	1.9%
	Hispanic or Latino	10.3%
	White	80.0%
	Two or more races	.8%

Table 2

Demographics of the College of Teaching and Learning Program Participants, Spring 2018

Group		
Gender	Male	18.9%
	Female	81.1%
Race/ethnicity	African American or Black	3.8%
	Asian	0
	Hispanic or Latino	7.5%
	White	85.0%
	Two or more races	3.7%

Once I received IRB approval from Walden University and the mideastern university, data were collected and analyzed. All surveys have been properly stored for confidentiality purposes. The preexisting data are made available to the instructors and staff by the university's college of education. No precautions were taken to maintain privacy with the preexisting data since no names were identified on the scores.

Pre Existing Data

TEAM Rubric. The Tennessee Educator Acceleration Model (TEAM) was developed by the National Institute for Excellence in Teaching for the state's general assembly legislation in 2007 (Tennessee Higher Education Commission). The intended purpose was to improve the quality of the state's education report card that included key data based on the evaluations of individual teacher's effectiveness (2012). Tennessee's State School Board's "First to the Top" program professionalized teaching evaluations in order to receive funding that demonstrated their efforts to improve the teacher's effectiveness and accountability. The TEAM model was a type of criterion validity report that was used to predict teacher effectiveness on students' academic success. A major concern with criterion validity was that it may not account for situational factors or variance in subjective influences on diverse evaluators. The immediate implementation of the edTPA instrument was a limited large-scale research linking reliability between the teacher's scores and teaching effectiveness (Greenblatt & O'Hara, 2015). The Residency II clinical teaching candidates were observed by the master clinicians, university supervisors and mentor teachers during field placements. At an arranged time, the master clinician completed the TEAM rubric (Appendix B). The TEAM assessment rubric measures the ability of clinical teaching candidates in using assessment results to inform instruction. The TEAM evaluation rubric that was used by the master clinicians, university supervisors and mentor teachers contained 19 items that were scored a 5 for significantly above expectations, 3 for expectations or one significantly below expectations (Appendix B). Master clinicians and university supervisors use an iPad

application called *Numbers* to submit frequent observations and feedback through multiple observations and pre- and post conferences. The candidates' classroom mentor teachers use the same rubrics but submit the evaluations to Excel. An assistant compiles the data for each candidate in a digital folder. Collected data were imported from the office of the certification analyst and teacher licensure into Microsoft Office Excel for further evaluation and comparison.

edTPA Rubric 15. The edTPA instrument was developed by the Stanford Center for Assessment, Learning and Equity (SCALE) in 2009. The standardized instrument was based on various organizations performance-based assessments such as the National Board for Professional Teaching Standards (NBPTS), the Interstate Teacher Assessment and Support Consortium (InTASC), and the Performance Assessment for California Teachers (PACT) (Kim 2019). In the fall of 2013, the subject-specific, portfolio-based performance edTPA instrument became fully operational nationally through Pearson Education Service (Hebert, 2017). The purpose of the standardized instrument was "designed to engage candidates in demonstrating their understanding of teaching and student learning in authentic ways" (SCALE, 2012). According to Goldhaber, Cowan and Theobald (2017), a longitudinal study from Washington State indicated that the edTPA performance-based assessment was predictive of employment in the teacher workforce. However, the edTPA assessment relationship to teaching effectiveness was mixed in the reading and math instruction (Goldhaber et al., 2017). A more extensive quantitative and qualitative empirical research on the edTPA instrument was necessitous

for professional discourse on teacher preparation, quality and policy making to be conclusive (Zhou, 2018).

The edTPA Task 3 was an observational rubric (Appendix C). There were three indicators of proficiency on the edTPA rubric that measures five scoring components, which include planning, instruction, assessment, analyzing teaching, and academic language. Data collected were an on-going formative and summative observation that determines if professional growth had occurred. The artifacts and commentaries include original lesson plan and instructional materials, assessments, anonymous student work samples with teacher candidate' feedback, as well as modification to instruction. The goal was to evaluate the specific materials and resources that the Residency II clinical teacher candidate uses to analyze and modify instruction in the classroom as observed by university supervisors, cooperating mentor teachers and scores earned on the edTPA Rubric 15 standard.

Based on the Student Center for Assessment, Learning, & Equity (SCALE), the purpose of Task 3 was to help K-12 teachers and administrators make use of common assessment data to improve teaching and learning (2015). The edTPA evaluations' data were available electronically to the researcher by the college's office of teacher licensure and certification. The edTPA was scores based on all elementary literacy K-6 majors showing the edTPA standards one through fifteen with national and the university's scores. There were no identifiers of Residency II students. No individual Residency II student scores were used to conduct the research. Only whole group scores were used to address the gaps between field experience and the edTPA standardized test. The

qualitative data collected on the edTPA standards were used to explain the group scores of the Residency II teacher candidates. Even if the edTPA standard scores indicate that the whole group of Residency II teacher candidates meets or exceed expectations of modifying instruction, the edTPA scores were not an indicator that the teacher candidates had received the field experience to modify of instruction based on the assessment.

Residency II Teacher Candidates' Survey.

The teacher candidate survey was developed based on the edTPA Task 3, Standard 15 and TEAM instruments. The instruments were used to measure the teacher candidates' skills to modify instruction based on data. The focus of the survey questions was to establish whether the teacher candidates' assessment skills were implemented during their field experience as a student teacher. The Residency II teacher candidates' qualitative survey (Appendix E) that was implemented by the department chair of Teaching and Learning was used to address specific questions regarding Task 3 Rubric 15 was administered by the department chair who appointed a graduate assistant to hand-out the qualitative survey at the end of the Residency II teacher candidates' field experience. The department chair then requested an allowance of time before the last seminar session for the teacher candidates to take the qualitative survey. There were 27 Residency II teacher candidates who participated in completing the qualitative survey at the end of their spring 2018 field experiences. The qualitative survey used in my research involved seven open-ended questions that addressed the ability of Residency II teacher candidates to implement edTPA Task 3, Rubric 15.

The appointed graduate assistant allowed the teacher candidates 30 minutes to complete the seven questions. The qualitative survey included seven open-ended questions about standards and lesson modification involving data-driven instruction. The qualitative survey began with an engaging question, which introduced the participants to the topic of the qualitative survey. The edTPA Task 3, Rubric 15 required the 27 teacher candidates to reflectively explain how the assessment was used to inform instruction during their field experiences. The department chair directed the graduate assistant to maintain the autonomy of the participants by requesting no names on the qualitative survey. The research questions were aligned with the conceptual framework by focusing on "how" or "what" approaches were implemented to gather information about lesson modifications involving the use of data-driven instruction. Candidates shared detailed instructional modifications they considered when moving a whole class or individual students forward after a lesson. Second, exploration questions were asked to delve further into understanding the variables that influenced the candidates' ability to conduct data-driven instruction. Finally, an exit question was posed in the qualitative survey to give the participants an opportunity to add additional information on how data influences instruction during their Residency II field experience.

The content validity of the Residency II teacher participant qualitative survey compares to the conceptual framework for data-driven decision making. The framework for the qualitative survey was to address the need to inform different instruction decisions based on effective data collection in the classroom. The common themes of the qualitative survey supported research questions three and four by identifying the evidence

or counter-evidence of whether Residency II teacher candidates can implement data-driven instruction during their field experiences.

The qualitative survey experience allowed Residency II teacher candidates an opportunity to reflect on their data training and field experiences in data-driven instruction. As a result, the teacher candidates could form a mental process of self-reflection that could help them to continuously learn, grow and develop in and through practice according to Karunanayaka, Naidu, Rajendra, and Ratnayake (2017).

At this point, I made self-critical notes on the common themes that were related to each other in the quantitative data and teacher candidate qualitative surveys (Karunanayaka et al., 2017). Research questions one through three focused on comparing the pre-existing data from edTPA, TEAM, and mentor teacher rubrics' quantitative scoring. The research questions one through three raised some inquiries about the consistency to meet the standard scores and what practices would be implemented to make improvements (Karunanayaka et al., 2017). The teacher candidates' responses to the research question four focused on the qualitative explanations of their understanding of data-driven instruction. The representative statements were coded into a knowledge of the edTPA Task 3, Rubric 15, beliefs about data-driven instruction, criteria to differentiate instruction, types of assessment and data collection, and course training and practice. The responses to research question four was categorized into three interpretations of limited, basic or demonstrated understanding of the usefulness of data-driven instruction. Each coding had a sub coding of terms and definitions that provided me with a means to interpret the representative statement

provided by the teacher candidates. Each interpretation involved identifying limited, basic or demonstrated academic language in their responses. As mentioned by Karunanayaka et al. (2017), it benefitted critical thinking skills to be able to reflect on the common themes in the teacher candidates' responses. I organized the Residency II teacher candidates' responses to the survey questions by implementing Strauss and Corbin's (1998) approach (Table 3) to gain a better understanding of the teacher candidates' comprehension of data-driven instruction. I read for limited, basic, and demonstrated academic language that explained the teacher candidates' explanations.

Processes

In this case study, it was important to me to adhere to the specific guidelines that allowed me to investigate the data-driven instruction to ensure rich, detailed themes. Based on the directions given by the department chair, the graduate student who administered the qualitative survey instructed each teacher candidate to return the qualitative survey to her at the end of the 30 minutes. The graduate assistant then placed all the qualitative surveys in a large manila envelope and sealed it. The envelope was then placed in a locked cabinet in the department of teaching and learning to maintain confidentiality. I had to gain permission from the department chair had access to the qualitative surveys once my Walden IRB approval was given in July 2018. Once I had access to the qualitative surveys, I began the coding process by highlighting using three different colors that identified limited, basic, and demonstrated an understanding of common terms and language used in data-driven instruction. I then contacted and received from the administrative assistant in clinical teaching the edTPA, TEAM, mentor

teacher data on August 8, 2018. I also contacted the coordinator in teacher licensure for spring 2018, Residency II teacher candidates' demographics on August 16, 2018.

To promote trust and confidence between myself, the department chair, and teacher candidate participants, an educational setting was provided to ensure other outside factors did not influence their responses. Establishing an educational setting placed a value on their insight on data-driven instruction. Organizing and sorting of the data was completed in a quiet office setting to ensure the coding process was accurate. In my case study, the approach involved either primary or secondary data as a complete means to understanding how the different data sets compare.

System for Data Tracking

I organized the edTPA, TEAM, and mentor teacher data in a Microsoft word document by inserting a data table to compare the three scores involving the ability of the teacher candidate to analyze student performance based on assessments. This simple and easy approach to analyze the data from these three assessments eliminated unwanted data information and helped me to focus only on the data that involved data-driven instruction. The common theme among these three assessments provided a "meets" the standards. It helped to have a clearer understanding of why the teacher candidates were not confident in their skills to implement data-driven instruction during their field experiences.

I identified common themes in the teacher candidate qualitative surveys by selecting the representative statements in each response to the research question four. I wanted to identify the attitudes toward the usefulness of data-driven instruction and what perceived skills the candidates attributed to their pre service program of study. After the

themes were identified, I then began interpreting the representative statements by coding them as limited, basic or demonstrated in their understanding of data-driven instruction. I used three different colors for coding to help me to separate the interpretations into more specific categories visually. It was necessary to be systematic in my procedures so that my coding skills were consistent (Geisler, 2018). This approach helped me to maintain reliability in looking for patterns among the teacher candidates' responses.

Researcher's Role

I had been employed as an adjunct instructor with the designated southeastern university for two years and had taught introduction to education courses and social studies methods. I had interacted with some of the teacher candidate participants while instructing them in the fall of 2017 in social studies methods during Residency I. I did share my credentials as an educator and my pursuit to obtain my educational doctorate. However, there were no in-depth discussions regarding my study that would involve them in the study. It was vital to my study as a professional to believe in the effectiveness, benefit, and feasibility of educational research (Pekel & Akcay, 2018). Therefore, it was crucial to my study to avoid any coercion on the students that could impact my research study. Once the students moved from Residency I to Residency II teacher candidate field experience, I did not interact with the students since they were under the supervision of the master clinicians, university supervisors, and mentoring teacher.

Data Analysis Results

The goal of the project was to produce a report that provides potential themes between the pre existing data and the Residency II teacher candidates' qualitative surveys that narrated a response to each research question and objective. In this qualitative, descriptive report it was necessary to interpret, transcribe, and synthesize the data to determine what research findings relate to the research questions. Simple counting, graphing and visual inspection of ratings was used to organize terms, such as data-driven instruction and differentiated instruction.

Coding and collating potential themes based on the Residency II teacher candidates' anonymous qualitative surveys were conducted to relate the analysis to the research questions, objectives and literature reviewed. Task 3: Assessing Student Learning, Rubric 15 assessment was used of to inform instruction was the focus for identifying whether candidates can inform the next steps for instruction based on the data analysis of students' strengths and needs. Candidates validated their response to furthering their instruction strategies based on specific research-based practices and theoretical concepts.

Constant and critical self-reflection on checking and auditing the data for common themes such as the purpose of data, how data was implemented, and the knowledge for differentiating instruction was addressed. The qualitative data were identified using numbers to rate the number of times a specific term occurs on the qualitative survey so that the collation of codes develop themes that address the research questions. The goal of this analysis was to reveal if teacher candidates were adequately

prepared in data-driven instruction. The goal was to show the connection between teacher candidates' instruction and determine whether not there was a deficit in their ability to use data-driven instruction in content analysis.

The descriptive case study method includes a qualitative survey to evaluate data-collection and lesson modification, the local university clinicians' TEAM rubric evaluations, the scores on the edTPA Rubric 15, and mentor teacher assessment data. This methodological triangulation comprised of more than one data option to explain the different aspects that influence Residency II teacher candidates' ability to collect data and modify lessons. The comparing and cross-checking of collected data using the Residency II teacher candidates' qualitative surveys, TEAM rubric evaluations, edTPA Rubric 15 scores, and mentor teacher assessments add value and support. (Merriam, 2009). The purpose of this triangulation was to capture different data sources that may complement or validate what was being measured by the edTPA rubric, TEAM rubric, mentor teacher evaluation, and Residency II teacher candidates' qualitative survey. To establish the credibility and trustworthiness of this qualitative research was to triangulate the specific qualitative survey questions that prompt the Residency II teacher candidates to reflect on teaching practices that influence the assessing and monitoring of students' learning with the TEAM rubric evaluations, edTPA Rubric 15 scores, and mentor teacher assessment data (Banville, White & Fox, 2014). The objective was to understand better the purpose of implementing assessment skills so that the Residency II teacher candidates had a more refined and specific understanding of learning assessments (Banville et al., 2014).

To assure accuracy and credibility of the findings a triangulation method was conducted to ensure validity. Analyzing the research questions based on the triangulation of the Residency II teacher candidates' qualitative surveys, TEAM rubric evaluations, edTPA Rubric 15 scores, and mentor teacher assessment data provided information as to the efficacy of the teacher preparation program in its ability to prepare students to implement data-driven instruction. I described in detail the context to allow the reader to transfer findings to similar contexts.

As a researcher, it is important to be cautious when considering the variables that affect my data analysis. To safeguard data reliability, it was fundamental that I will be exact and relevant in my research analysis. It was important to use caution in forming inappropriate causal inferences for understanding data-driven instruction training and learning (Roessger et al., 2017). I began transcribing the teacher candidate qualitative surveys as to be able to identify the common themes that developed. I was able to identify common themes based on the common academic language used in the college of education. Terms such as scaffolding, the zone of proximal development, modifications, targeted instruction were valuable in identifying whether the teacher candidates were limited, basic or demonstrating their understanding of data-driven instruction.

The data that were analyzed for this research study involved the edTPA, TEAM, mentor teacher assessments and a student survey that was implemented by the department of teaching and learning in the spring of 2018 to the Residency II teacher candidates. Quantitative scores were organized to address research questions one through three (1) How do edTPA Task 3, Rubric 15 scores compare with the school mentors' perceptions

that clinical teaching candidates can use assessment data to inform instruction? (2) How does standardized edTPA Rubric 15 assessment compare with the scores clinical teaching candidates receive from the TEAM evaluations, and (3) How do edTPA, TEAM, and master clinician evaluations compare with Residency II teacher candidates' perceptions, and what possible weaknesses might this comparison reveal in the teacher preparation program?

To help organize the qualitative surveys to find common themes, I referenced research question four to guide the organization of the responses. Based on the qualitative surveys completed by the Residency II teacher candidates, coding was used to identify some commonalities regarding their training in data-driven instruction. First, the teacher candidates' representative statements indicated that they understood the definition and purpose of the edTPA Task 3, Standard 15 in their training and field experiences. The teacher candidates even furthered their explanations of the edTPA task and the need to differentiate instruction based on the pedagogy of their students. Terms and definitions such as scaffolding, modification, and zone of proximal development were used in their responses to explain the significance of the edTPA Task 3, Standard 15. The teacher candidates indicated that assessment was vital to informing instruction and must be conducted on a routine basis.

The electronic, quantitative data were saved on my password protected home and office computers. The qualitative paper surveys were stored in a locked filing cabinet in the teaching and learning department office at the university.

Findings

This section of my research study was focused on the data analysis results based on the quantitative assessments and the teacher candidate qualitative surveys. One variable that was important to note was that the Residency II teacher candidates had just completed their field experiences with their mentor teacher. As a result, the lack of district support for the Residency II teacher candidates to meet their expected standards on the edTPA and TEAM evaluations did not correlate necessarily with the districts' curriculum expectations. A very rigorous outlined curriculum in the district was strictly enforced that had prevented the teacher candidates from fully implementing data-driven instruction during their field experiences. This generalization was considered more evidence based because of the experiences of the department of teaching and learning collaborating with the school districts (Stynes et al., 2018). Therefore, the inability to practice the edTPA and TEAM standard to use data to modify instruction had been limited based on the time allotted for that specific lesson.

The four research questions were designed in a manner that would address how the quantitative assessments supported the qualitative responses of the Residency II teacher candidates. The edTPA, TEAM, and mentor teacher assessments provided the numerical data to help the teacher candidates, teaching and learning department, and outside stakeholders to identify the ability to meet the required expectations for being a licensure teacher. The issue of concern was that there was no explanation of what modifications in instruction or training were needed to help the teacher candidates master the required expectations.

RQ 1: How do the edTPA Task 3, Rubric 15 scores compare with the school mentor teacher's perceptions that clinical teaching candidates can use assessment data to inform instruction?

Table 3

Chart for edTPA for spring 2018 teacher candidates

Criterion	Frequency/percentage
1	0
2	3/15.0%
3	8/40.0%
4	8/40.0%
5	1/5.0%

Note: the total recorded edTPA scores were for 20 teacher candidates

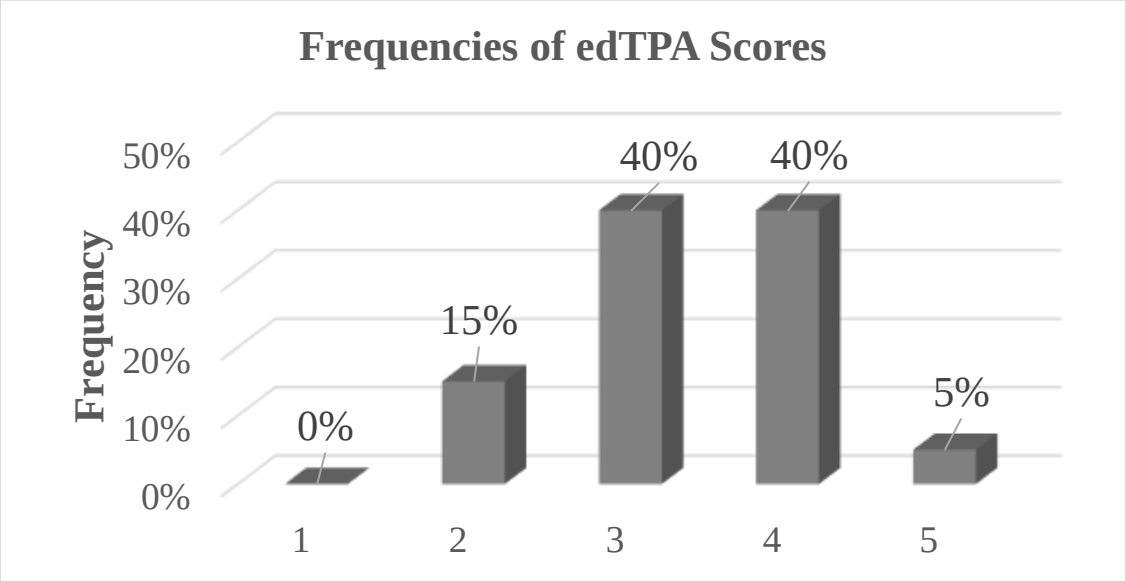

Figure 1: Bar graph showing the frequency of edTPA Residency II teacher candidates' scores (2018).

Table 4

Mentor Teacher Assessment Score for spring 2018

Criterion	Frequency/percentage
1	0
2	0
3	7/35.0%
4	8/40.0%
5	5/25.0%

Note: the total recorded edTPA scores were for 20 teacher candidates

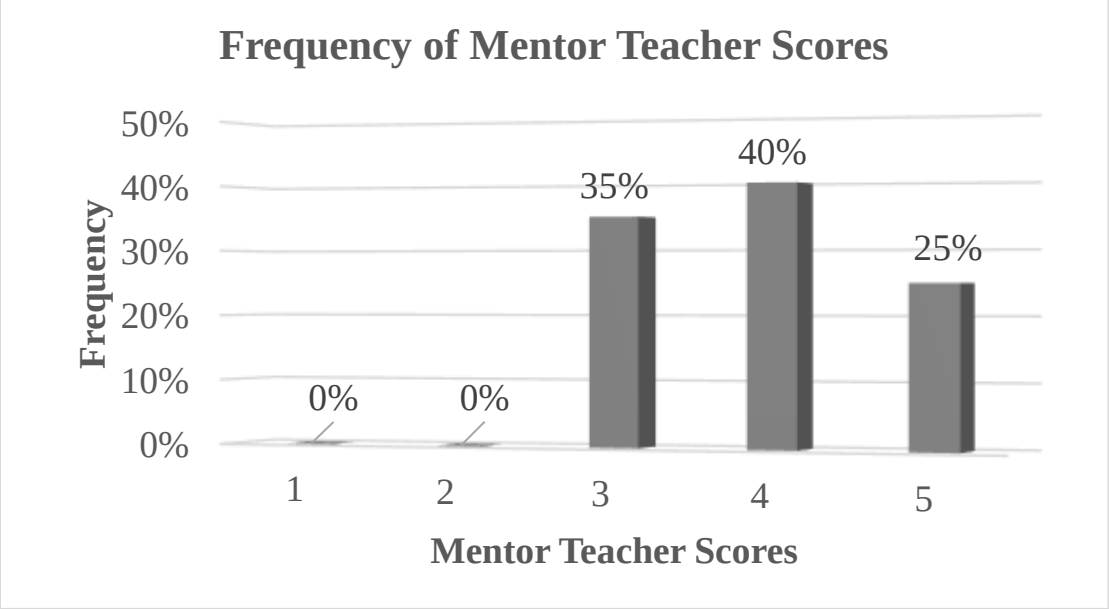

Figure 2: Bar graph showing the frequency of edTPA Residency II teacher candidates' scores (2018).

The edTPA Task 3, Rubric 15 scores were comparable in data results with the school mentor teachers' scores that measured the Residency II teacher candidates' ability

to implement data-driven instruction. The edTPA scorers assessed 40% of the teacher candidates with a three, and 40% of the candidates with a four. The mentor teachers evaluated 35% of the teacher candidates with a three, and 40% of the candidates with a four. The discrepancies (Figures 1 and 2) indicated that the edTPA rated 15% of the teacher candidates at a rating of two while the evaluations conducted by the mentor teachers did not recognize any teacher candidates as scoring a two or lower. Other discrepancies were that edTPA scorers rated 5% of the candidates at a five rating, while mentor teachers scored 25% of the teacher candidates at a five rating.

Based on the analysis of the graphs, the percentages (Figures 1 and 2) of the edTPA and mentor teachers' assessments implied that the teacher candidates could implement data-driven instruction. However, after making observations of the edTPA rubric (Appendix F) and the mentor teacher's rubric (Appendix G), it was noted that the qualitative definitions for each one of the quantitative scores in the edTPA and mentor teachers' assessments varied in descriptions. The edTPA rubric had a scale of Levels 1 through 5. Level one indicated a struggling candidate, not ready to teach, at level two there were some data skills but needed more practice. At level three, the skills were acceptable to begin teaching, level four the candidate had a solid foundation of knowledge and skills. Level five of the rubric indicated that the candidate was stellar. The edTPA evaluator could not take a holistic approach that captured the longitudinal relationship between the planning, instruction, and assessment (Parkes & Powell, 2015). Based on the quantitative assessments the edTPA evaluator measured one individual skill. The edTPA evaluators were required to treat each one of the tasks in isolation

(Parkes & Powell, 2015). Whereas, the mentor teachers' assessment rubric was measuring up to six different skills within the one category.

The TEAM rubric implemented by the mentor teachers was a student learning outcomes (SLO) based evaluation that encompassed an integrated focus overall rather than specifics (Tennessee Department of Education, 2018). The mentor teacher's assessments rating scale was a five with significantly above expectations, three at expectations, and one significantly below expectations. If the teacher candidate scored a three "meets expectations" or one "significantly below expectations" on the mentor teacher's assessment there was not any listed skill that identified the teacher candidates' ability to use assessment to inform instruction. However, the cooperating mentor teacher's daily interaction by conducting formative discussions with the student teacher candidates addressed relevant instruction (Parkes & Powell, 2015). To be able to identify specifically what the teacher candidate was able to meet on those six separate skills within the significantly above category may not be evident on the scored evaluation, but the formative real-time interaction and feedback were crucial.

Even though, the graphs indicated comparable quantitative measures, the qualitative definitions of each one of those quantities indicated measurement of different skills that attempted to identify the teacher candidates' ability to implement data-driven instruction. There were 25% of the spring 2018 Residency II teacher candidates who demonstrated a score of 5.0 on all six skills during their field experience based on the mentor teachers' evaluations. The edTPA Task 3, Standard 15 indicated that 5% was a stellar candidate.

RQ 2: How does standardized edTPA Rubric 15 assessment compare with the scores clinical teaching candidates receive from the TEAM evaluations?

Table 5

edTPA scores for the Spring, 2018 Residency II teacher candidates

Criterion	Frequency/percentage
1	0
2	3/15.0%
3	8/40.0%
4	8/40.0%
5	1/5.0%

Table 6

TEAM evaluation based on the master clinician observations

Criterion	Frequency/percentage
1.0	0
3.0	4/20.0%
3.5	4/20.0%
4.0	9/45.0%
4.5	1/5.0%
5.0	2/10.0%

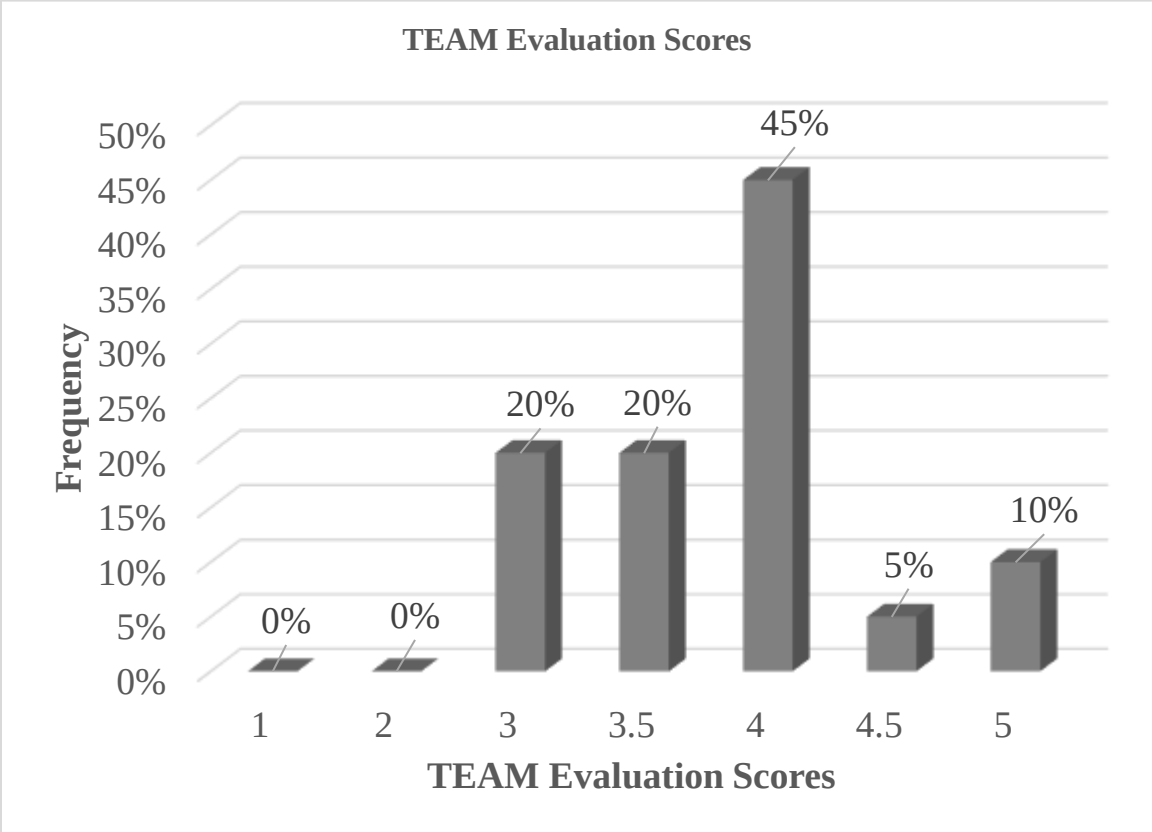

Figure 3: TEAM Evaluation Scores completed by master clinicians for Residency II teacher candidates (2018). Bar graph showing the frequency of TEAM scores (2018).

The only score that was comparable was a rating of four on both the TEAM and edTPA assessment. The edTPA assessment had 40% of the teacher candidates scoring a 4.0, while the TEAM evaluations had 45% of the teacher candidates at a 4.0. The discrepancies involved the edTPA evaluators scoring 15% of the teacher candidates a 2.0, while the TEAM evaluators indicated none of the teacher candidates scoring a 2.0. The edTPA assessment identified 5% of the teacher candidates scoring a 5.0, while the TEAM evaluation scored 10% of the candidates at a 5.0.

The apparent discrepancies between Figure 1 and Figure 3 reflected a difference of scale. The edTPA scored 40% of the teacher candidates at a three while the TEAM

scored 20% of the teacher candidates at a 3.0 and 20% at a 3.5. There was no evidence from the TEAM rubric that suggested what qualified as a 3.5 on the TEAM rubric. The TEAM rubric had five different skills that were measured at a level 3 so it was not clear as to what additional skill(s) were or were not identified by the master clinicians/university supervisors to constitute giving a 3.5 on the TEAM rubric. The TEAM rubric showed a score 5% of the teacher candidates as scoring a 4.5 on the rubric. Again, there was no evidence provided on the TEAM rubric that indicated what was evident or what was not evident since there were no qualitative descriptions for this level.

The edTPA Task 3, Rubric 15 was very specific in measuring whether the teacher candidate can implement data-driven instruction in the classroom. The TEAM had a specific scale to measure the teacher candidates' skills, but there seems to be leniency on interpretation and scoring which, could result in more evaluators' biases of the student teachers' performances. The graphed data indicated comparable scores on the Residency II teacher candidates' performances during their field experiences. However, what was being specifically measured by the evaluators on the TEAM rubric was unclear. Numerous skills that were being assessed such as aligned state content standards, clear measurement criteria, measured student performance in more than three ways, extended written tasks, clear illustrated student progress toward state content standards, and finally descriptors of how assessment results were used to inform future instruction.

RQ 3: How do edTPA, TEAM, and mentor teacher evaluations compare with Residency II teacher candidates' perceptions, and what possible weaknesses might this comparison reveal in the teacher preparation program?

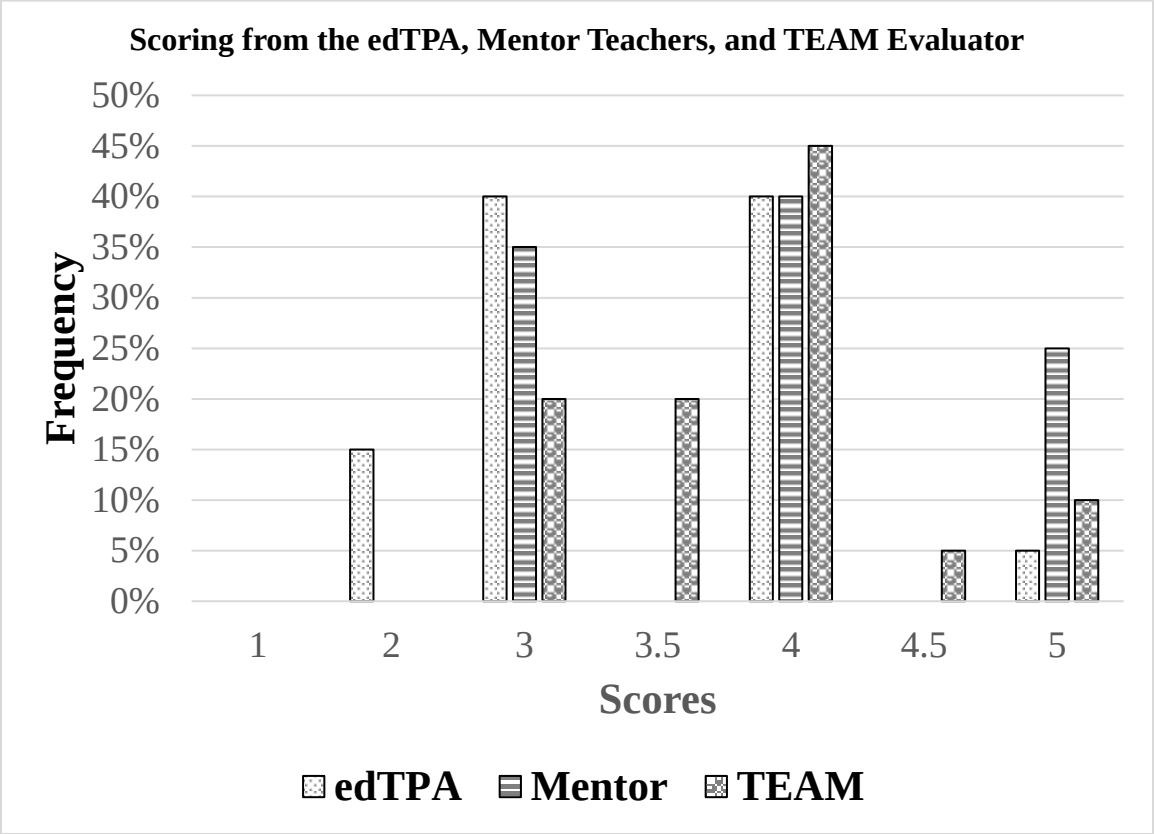

Figure 4. edTPA, Mentor teachers, and TEAM evaluator scores on bar graph showing the frequency of edTPA, mentor, and TEAM scores (2018).

Figure 4 displays the teacher candidates' average scores on the external evaluation assessed by the edTPA evaluators met the state's requirements. The internal evaluation conducted by mentor teachers and master clinicians/university supervisors met the university's requirements. The criteria within the rubrics of edTPA, TEAM, and mentor teacher instruments suggested the Residency II teacher candidates' perceptions were "fairly confident in providing targeted instruction based on data but struggle with pulling in research that validates what strategy to choose based on data" (2018).

The possible concern was that even though the Residency II teacher candidates,met the university and state requirements, the use of the edTPA as a high-

stakes performance assessment was the focus of the program's effectiveness (Parkes & Powell, 2015). This high-stakes assessment minimized internal assessments that evaluated instruction. No authentic or valid evidence of the collected data had been used to analyze why Residency II teacher candidates felt training did not prepare them to meet the expectations on the edTPA rubric.

Based on the Residency II teacher candidates' surveys (Table 8), the teacher candidates were knowledgeable about how the edTPA Rubric 3, Standard 15 helped them analyze data and inform their instruction. Hoaglund, Birkenfeld, and Bluiett (2014) stated in their research study that collected data from numerous students' assessments provided reliable information that helped the teachers to make decisions about the next steps in supporting students' academic learning (p. 313). According to one teacher candidate's response to the survey (Appendix E), the edTPA Rubric 3, Standard 15 "focused on individualizing instruction to meet the needs of every student" (2018). Another teacher candidate agreed that data helped us to understand the various learning levels of our students.

The teacher candidates valued the importance of data-driven instruction based on their pedagogical courses. Several teacher candidates indicated in their responses that "assessments of the students' different learning styles resulted in differentiated instruction." A reflective teacher should identify the students' zone of proximal development (Vygotsky, 1962) to modify instruction. Hoaglund et al., (2014) stated that teachers must structure and restructure their teaching based on the data decisions made daily. One teacher candidate specified that the student's growth mindset (Dweck, 2006)

must be encouraged by "helping students make daily improvements as valuable goals instead of focused only on summative mastery." What was vital to data-driven instruction was the ability of adaptive teachers to differentiate instruction thoughtfully, in real-time based on the individual student's needs (Parsons, Dodman, & Cohen Burrowbridge, 2013). There was a clear suggestion that teacher candidates understood the various assessments that were necessary to their instruction. One teacher candidate stated that "intentional measures to promote proficiency in learning targets need to be frequent." While another candidate confirmed that "teachers must address disconnect in the student's learning through continuous assessment."

However, the edTPA Rubric 3, Standard 15, and the TEAM assessment were not to assess the teacher candidates' pedagogical understanding of employing daily data-driven instruction. Instead, it was a one-time summative measurement of their ability to demonstrate at the right time a glimpse of the real-time data-driven instruction in the classroom. Most teacher candidates indicated that there was a "lack of practice to effectively analyze student work to plan next steps in instruction. According to Hoaglund et al., (2014), teacher candidates should be given the opportunity to gain proficiency during their field experiences to observe the classroom mentor teacher implementing data to reinforce students' academic strengths.

Data-driven instruction planning was a valuable tool for optimizing student learning at all levels (Abbott & Wren, 2016). It was necessary to conduct internal audits that addressed the discrepancies as to why the teacher candidates were failing to score higher on their data-driven instruction skills. The emphasis of a successful teacher

preparation program does not concentrate solely on teacher candidates' quantitative external evaluators' scores; those same assessment scores should be indicators to when internal modifications to the assessment course and instruction were essential.

RQ 4: Based on the qualitative survey for Residency II candidates, what attitudes toward the usefulness of data driven instruction to emerge and what perceived skills do the candidates attribute to their pre-service program of study?

The research questions guided the formulation for the qualitative survey questions so that there was a better understanding of what areas the teacher candidates felt were a weakness in their training and field experiences when implementing data-driven instruction. The survey responses (Table 8) that emerged from the Residency II teacher candidates' perceptions about the use of assessment to inform instruction were coded to understand the theme. For example, one teacher candidate explained that "data-driven instruction was necessary for differentiation because of the importance to meet each student in their zone of proximal development." Evidence from their survey responses included an understanding of the standard's academic language to use assessment to inform instruction. The language that demonstrated their understanding included such concepts as individualizing and differentiating instruction, reteaching, and modifications. The teacher candidates demonstrated an understanding of the importance of scaffolding students' prior knowledge, as well as, understanding that each student's zone of proximal development (Vygotsky, 1962) supported their instruction to guide and encourage students to master difficult skills. The candidates shared that as teachers one needed to

be aware of the next instructional moves that were purposeful in meeting the students' learning needs.

Theme 1: Refers to the knowledge that the standard was to inform and modify instruction based on student data. The emphasis of this first theme in the Residency II teacher candidate survey (Table 8) was to disaggregate the teacher candidates' responses into categories that identified their limited, basic or demonstrated an understanding of the edTPA Rubric 3, Standard 15. I created subcodes to identify academic concepts that clarified the teacher candidates' responses. The subcodes identified concepts such as informed instruction, analysis of instruction and focused on their students' performance. The subcodes were necessary to ensure that the teacher candidates' fundamental training included a basic understanding of the expectancies for this specific standard.

Based on the representative statements the teacher candidates responded to on the survey were basic to demonstrative explanations of the edTPA Rubric 3, Standard 15. Most of the candidates indicated that data informed their instruction and supports students' learning. Reeves (2017) validated the teacher candidates' understanding of data-driven instruction by verifying the use educator data was a useful approach for disseminating student achievement progress. One teacher candidate indicated that "data can be used to provide targeted instruction to students who might need more practice." There were few limited interpretations of the teacher candidate's survey responses that suggested inadequate knowledge about the edTPA Rubric 3, Standard 15.

Table 8

Residency II Teacher Candidate's Surveys

Code	Theme	Example
Knowledge of the edTPA Rubric 3, Standard 15	Refers to knowledge that the standard was to inform and modify instruction based on student data.	"Focuses on individualizing instruction to meet the needs of every student." "Data can be used to provide targeted instruction for students who might need more practice."
Residency II teacher candidates' beliefs about the purpose of data-driven instruction	Teacher candidate understands pedagogy, scaffolding and the zone of proximal development, a growth-mindset	"Strong instruction hinges on using data to inform teaching." "Collecting and analyzing data pinpoints certain missed concepts."
Types of assessments and data collection that support edTPA Rubric 3, Standard 15	Alternative assessment that was authentic, comprehensive, or performance based to gauge student's understanding of material.	"Intentional measures to promote proficiency in learning targets were frequent formative assessments and planning." "It is important to collect data over a long period of time to see trends and modify instruction."
Residency II teacher candidates' training and field experience modifying instruction based on data.	Assessment course training and practice during field experience.	"I feel that I have not been adequately prepared the way it is done in actual schools is not the back-ward design. It is confusing." "I feel that my training has not prepared me to meet the expectations on the rubric." "I feel fairly confident in providing targeted instruction based on data, but I struggle with pulling in research that validates what strategy I choose based on data." "I feel that I could do pretty well, but more training would be nice." "I feel prepared because I know how to destruct standards."

Theme 2: Teacher candidate understands pedagogy, scaffolding and the zone of proximal development, and growth-mindset. The next theme that was addressed in Table 8 focused on the teacher candidates' knowledge of the academic language that focused on pedagogy, scaffolding, the zone of proximal development, a growth-mindset. The teacher candidates had to understand the correct application of the academic language about the edTPA Rubric 3, Standard 15. I subcoded the theme into three categories that included understanding pedagogy, integration of data-driven instruction into the curriculum, and a student-centered approach to addressing deficits in learning. The researcher interpreted their responses as limited, basic, or demonstrated to understand their beliefs about data-driven instruction. The teachers basic discernment of the academic language indicated that the teacher candidates understand that "all students were different and require different help in their learning."

Amusan (2016) stated that quality teachers possessed not only the content knowledge but the pedagogical skills that incorporate classroom management and organization. Based on Amusan it was essential to identify the teacher candidates' pedagogical skills that addressed data-driven instruction. The teacher candidates who understood the significance of scaffolding instructional techniques to move students progressively toward stronger understanding and, greater independence in the learning process understood the significance of data and modifications. Vygotsky's zone of proximal development provided the teacher candidates the skill to recognize what the student(s) achieved independently, and what student(s) accomplished with data support. The teacher candidates included the pedagogical concept that a growth mindset that

embraced learning challenges valued collected data to inform their instructional decisions.

According to the representative statements, there were some concerns about the teacher candidates' ability to explain their understanding of pedagogy correlated with data-driven instruction. One teacher candidate indicated that data-driven instruction "could help make sure the attitude of the student aligns to how much they comprehend." Another teacher candidate associated the scaffolding with the "attitude of the student." The teacher candidates' inability to use academic language in correct content may hinder their perceptions of how to apply data-driven instruction.

Theme 3: Alternative assessment that was authentic, comprehensive, or performance based to gauge student's understanding of the material. The teacher candidates' responses to this theme provided a perception of how formative and a summative assessment was utilized to inform instruction. The theme was subcoded into four categories that included formative and summative assessment, qualitative and quantitative data. The interpretations were based on limited, basic, and demonstrated understanding of the types of assessments necessary to data-driven instruction. The teacher candidates demonstrated a limited understanding of the purpose of qualitative and quantitative data in their instruction. The candidates' inadequate explanation that "quantitative data was easier to see a student improving" was cause for concern that qualitative data was not as necessary for assessing students' daily academic improvements. Both the collection of qualitative and quantitative data was instrumental in identifying areas that require modification in instruction. The responses that included

explanations of the formative and summative assessments were basic to demonstrative definitions that were used in appropriate context. The candidates indicated that "teachers often fall into the habit of only assessing with tests." Barton (2018) explained that gathering accurate student data at the moment was necessary for adapting instruction to meet students' needs. This explanation explained the candidate's response that "intentional measures were used to promote proficiency in learning targets and were frequent formative assessments" (Residency II Teacher Candidates Survey, 2018).

The essential qualitative and formative assessments were fundamental to monitoring the students' daily progress. The implementation of these assessments on a daily basis provides an opportunity for the teacher candidate to make observations that support modified instruction so that learning continues. The quantitative and summative assessments were necessary to ensure goals were being met. The benefit of the daily assessments, however, helped the students to experience a successful summation of their skills and knowledge. As mentioned by a teacher candidate "teachers must address the disconnect in students' learning and assessment."

Theme 4: Assessment course training and practice during the field experience. The focus of this theme involved the teacher candidates' training and practice in data-driven instruction. The two subcoded areas that were addressed included course training and practice, field experience training and practice. The researcher classified the teacher candidates' representative statements as limited, basic or demonstrated. The teacher candidates' particular responses about their training provided an insightful perception of their concerns involving their preparation. The candidates'

responses about their training were limited to somewhat basic explanations about their training. The limited responses involved the teacher candidates responding with a "7 out of 10, or on a scale from 1-10, I feel about 5-6." These quantitative number responses were too vague to know what areas the candidates felt were exactly lacking in their training. The reason for the teacher candidates' uncertainty about their training may be that it was not well-defined for them or their mentor teacher. Nagro and deBetterncourt (2017) explained that the "teaching community might be deficient in stipulating clear methods for defining best practices during the field experiences that prepare teacher candidates for classroom realities" (p. 8).

If the academic language was not evident in the candidates' responses, it guided my analysis of their understanding of the importance of course and field training. The basic responses from the candidates included "assessment was something that I received very little practical training" or "I feel that I have not been adequately prepared the way it was done in actual schools-it was not a backward design. It was confusing." Most of the teacher candidates' responses indicated that there was a lack of preparation and practical training in data-driven instruction. The candidates that indicated the realization that their training was lacking indicated specific areas that must be addressed to help them to be successful in using data in the classroom. These candidates stated, "I wish we had been given the opportunity to be given more material to analyze data." Another candidate endorsed this statement by indicating that "I would feel better prepared if required to analyze student data to learn how to differentiate instruction." These responses offered an

indication as to why 40% of the teacher candidates may only meet the expectations of the edTPA and TEAM evaluations at a level three.

The cases that involved the teacher candidates' survey responses comprised of a discrepancy of correct use of academic language to explain the edTPA Rubric 3, Standard 15 assessment. One of the teacher candidates explained the edTPA Task 3, Rubric 15 by stating "data analysis helps teachers to determine what standards the students had mastered." The edTPA Task 3, Rubric 15 instead focuses on what the teacher will do to help meet the learning objectives the students were not able to meet (Making Good Choices, 2018). Another case that involved the explanation of the purpose of data-driven instruction, the teacher candidates stated that "assessments should require higher levels of thinking." The data-driven instruction does not change the curriculum or address only one academic level of learners. The purpose of data-driven instruction was to modify or differentiate how the teacher instructs the students to master a skill.

My hypothesis concerning the discrepancies among the teacher candidates' survey responses explaining their understanding of the criteria of the edTPA Rubric 3, Task 15 was that their classroom evaluation and assessment course had different instructors who did or did not emphasize the academic language involving data-driven instruction. Another possible discrepancy was that the teacher candidates' statistics and probability math for K-8 teachers' course did not provide them with the adequate understanding that data was used to inform their instruction. The most significant discrepancy for not understanding the edTPA Rubric 3, Task 15 standard was based on the teacher candidates' survey responses about their field practice. The teacher

candidates indicated that they did not experience data-driven instruction during their field experience in the classroom with their mentor teacher. There was a detachment between the university's state-required edTPA assessment for the teacher candidates and what expectations were expected in the local school districts. The public K-12 districts where teacher candidates were placed do not recognize or adhere to the teacher candidates edTPA requirements. Therefore, there was a divide between the required college of education teacher training expectations and the districts' expectations during field experiences. Any data experience that the teacher candidates had experienced during their field experience had been limited to only collecting and analyzing data but not modifying instruction.

Evidence of Quality

To ensure that the data were accurately analyzed, the researcher followed the outlined steps to ensure the credibility of the collected data. The collected edTPA data was provided by Pearson Education (2018) a secured score reporting site which lists the registration and submission for all candidates. The edTPA reports were then sent to the contact identified as the Score Report Contact at the college of education. Next, the collected TEAM evaluations conducted by the master clinicians and university supervisors follow a detailed TEAM evaluation timeline explains the lesson plan requirements, unannounced planning observations, resubmitting lesson plans, purpose, and paperwork (Tennessee Department of Education, 2018). The mentor evaluations were mentor completion surveys submitted to the director of teacher education and partnerships.

The credibility of the Residency II teacher candidates' qualitative surveys was defined by the teacher candidate completing the Residency II field experience in the spring of 2018. The qualitative survey was available to all candidates who fit within the defined population. The qualitative survey data was organized in a manner that included the candidates' verbatim responses to each of the qualitative survey questions. The coding of the responses was based on the knowledge of the edTPA Task 3, Standard 15, the teacher candidates' beliefs about data-driven instruction, the criteria to differentiate instruction, types of assessments and data collection, course training and practice. The representative statements were based on verbatim responses that I would interpret as limited, basic or demonstrated. The interpretations were based on prior academic language that the teacher candidates used to explain their responses. If there was little to no academic language used, then the researcher interpreted it to be limited. For example, if some candidates provided an inadequate explanation of the edTPA Task 3, Standard 15 and how it informs instruction and focuses on students' performance, the teacher candidate's understanding of the task was labeled as "limited." One of the teacher candidates stated that "data analysis helps teachers to determine what standards the students had mastered." The concern with this mindset was not including what modifications the instructor needs to focus on regarding the students who did not master the standard. A "basic" response for the edTPA Task 3, Standard 15, was one that did not include accurate academic language but evidence of an adjustment to the instruction. A statement that one of the teacher candidates made was that "goals with solid learning targets then go back and reteach" was ambiguous. For example, when the teacher

candidate stated "…go back and retaught," there was uncertainty about whether the candidate would reteach the same lesson in the same manner or would implement modifications to the instruction. Task 3, Standard 15 addresses the teacher's ability to modify instruction instead of the teacher candidate's focus on the students' performance. If the teacher candidate responded with a full understanding and use of academic language in full context, it was labeled "demonstrated." An example of the teacher candidates' demonstrating an understanding data-driven instruction would include academic language such as modify, scaffolding, differentiated instruction in their responses. One of the teacher candidates indicated that "data-driven instruction was necessary for differentiation because it was important to meet each students' zone of proximal development."

The reliability of the three assessments and Residency II teacher qualitative survey was a study that can be repeated by future researchers who would want to continue the study data-driven instruction. The edTPA, TEAM and mentor assessments were measurements that were recognized nationally and statewide for identifying quality training of teacher candidates. All three assessments consistently and dependably measure the teacher candidates' skills to implement data-driven instruction. The Residency II teacher candidate qualitative surveys had parallel questions that were similar because they related to data-driven instruction.

Discrepant Cases

It was pertinent to any research study to identify any elements of the data that do not support or appear to contradict patterns or explanations that emerged from the data

analysis. The Stanford Center for Assessment, Learning and Equity had explained their educative mission with the edTPA format. According to Whittaker, Pecheone, and Stansbury (2018), they were confused by the evaluations of different researchers that edTPA inhibits candidates from modifying teaching decisions to the students they teach when in fact the edTPA's foundational principle was to reinforce what should be instructed in the higher academic courses (Whittaker et al., 2018).

Throughout this research study, the discrepancy in data understood what basis the scoring was carried out when evaluating the teacher candidates. The edTPA Task 3, Standard 15 focuses on the use of assessment to inform instruction by guiding the teacher candidates to follow very specifically the data that was analyzed in Prompt 1 of Task 3 (SCALE, 2017). The TEAM evaluation covers a broader range of tasks that must be met along with how assessment results were used to inform instruction (TEAM, 2018). In fact, under the assessment plans, six complete tasks must be met. The TEAM evaluation was not solely focused on the assessments informing instruction making it difficult to determine the basis for the scoring. The mentor evaluations conducted by the mentor teachers were rated in percentages making it unclear what qualitative reasoning was given for the quantitative scores.

One slight discrepancy in some of the data was that the qualitative survey was administered to the Residency II teacher candidates after their very long and hard work during their field experiences. Their responses to the qualitative surveys had been influenced by their exhaustive experiences and wanted to be finished. Some of the 27

candidates were brief in their responses making it a challenge to had founded common themes to code and interpret.

Summary of Logical and Systematic Outcomes

The logic behind this study was to better understand if the quantitative edTPA and TEAM data was an indicator of the teacher candidates' abilities to implement data-driven instruction during their field experiences. The quantitative data provided necessary insights to the teacher candidates' understanding about data-driven instruction, but they did not indicate whether DDI was being used during field experiences. The qualitative survey for Residency II candidates was implemented to improve understanding of the candidates' experience in practicing the skill of collecting data and modifying instruction.

The survey provided a comparison between the quantitative results with the valuable feedback of the candidates. The opportunity to take an unbiased approach to better explain the quantitative data results provided insights on how to improve training for candidates. This survey, presented in a non intimidating manner, offered the candidates an opportunity to express their thoughts about their training without pressures of standardized assessments.

The systematic outcome analysis in the study provided strategic planning on the necessary efforts to improve training and quantitative scores. The integral approach of identifying more than quantitative data as an indicator for successful training was regarded as an important study by the stakeholders. The evaluation of the external assessments as a measuring tool helped the stakeholders to recognize a higher level outcome was possible for the training program.

Problem, Research Questions, and Framework

The local problem for this study was a question about the perceptions of Residency II clinical teacher candidates' ability to adequately analyze data to inform and modify instruction during their limited field experiences. The general problem in this case study was to identify whether DDI was understood by clinical students and being implemented during their Residency II teacher candidates' field experience. The focus of the research questions included a conceptual framework for examining the level of assessment proficiency on the local and national assessments. The congruency of these three measures of data analysis addressed the courses and field experiences of Residency II clinical teacher candidates. Evidence indicated that the edTPA and TEAM provided the quantitative measurements but did not provide the qualitative feedback to address any modifications in the instruction. In the attempt to determine the level of agreement among two mandated evaluations in using data to guide instruction, the following research questions steered the direction of this study.

RQ 1: How do the edTPA Task 3, Rubric 15 scores compare with the school mentors' perceptions that clinical teaching candidates can use assessment data to inform instruction?

RQ 2: How does standardized edTPA Rubric 15 assessment compare with the scores clinical teaching candidates receive from the TEAM evaluations?

RQ 3: How do edTPA, TEAM, and master clinician evaluations compare with Residency II teacher candidates' perceptions, and what possible weaknesses might this comparison reveal in the teacher preparation program?

RQ 4: Based on the survey for Residency II candidates, what attitudes toward the usefulness of data-driven instruction to emerge and what perceived skills do the candidates attribute to their pre service program of study?

Describe the project deliverable as an outcome of the results

The described workshop would be a logical restructure for training preservice teachers proficiency at modifying instruction based on student data. The restructuring would focus simply on DDI preparation. In addition, the scaffold training and practice would stipulate an exact task to complete for each candidate to implement individually during the field experience. Once the field experience was completed, the candidates would return to present their data findings with colleagues and instructor. The short-term outcomes regarding this study was that teacher candidates would improve their skills, confidence and knowledge about data-driven instruction by specific practice during their field experiences. The long-term outcomes in this study was that higher academia can make efforts to use the edTPA and TEAM assessment data to modify their own instruction during the training of the teacher candidates. The outcomes resulted in building the teacher candidate's self-efficacy on implementing data skills during field experience.

Summary of Findings

The dominant theme in the literature review focuses on Residency II clinical teaching participants ability to apply data-driven instruction in a classroom setting as determined by scores on their edTPA Rubric 15 assessment as well as the qualitative surveys and TEAM model evaluations during their semester-long clinical teaching

experience. The results of this study included data that determined whether there were common themes between the edTPA scores, TEAM rubrics, or mentor evaluations that support the Residency II teacher candidates' perceptions in the teacher preparation program. The major theme in the literature review focuses on adequate training of teachers to align classroom instruction with student data. The emphasis was on the candidates' ability to comprehend the process of analyzing and interpreting data that modified their instruction (Briggs, 2012). The concentration was on the responses toward the necessary time and use of DDI, and the confidence levels or candidates in implementing DDI. The main purpose of the applied research was to deliver information that can support better training and implementation of data-driven instruction. The general problem in this case study was to identify whether data-driven instruction was understood by clinical students and being implemented during their Residency II teacher candidates' field experience. The project study provided information to address the local problem of how to integrate DDI into the education courses based on Residency II teacher candidates' experiences.

Conclusion

The case study encompassed the perceptions of the teacher candidates' abilities to implement data-driven instruction during their field experience. A sample size of 28 Residency II teacher candidates agreed to participate in the study that involved a survey. The surveys were coded and analyzed for repeated key terms in order to answer the research questions. The participants were ethically protected by maintaining their

privacy, and informing them about the purpose of the study. The major findings in this study based on the survey data were as follows:

Finding 1: The edTPA Task 3, Standard 15 rubric assessed the one skill ofmodifying instruction based on data measured on a 1, 2, 3, 4, and 5 scale.

Finding 2: The TEAM rubric measured five skills along with modifying instruction based on data measured on a 5, 3, 1 scale.

Finding 3: Even though the teacher candidates passed the edTPA Task 3, Standard 15 with an average of 3, the candidates were not confident in their ability to modify instruction based on data during their field experiences.

Finding 4: No correlation between the external and internal assessments have been addressed. Therefore, external assessment scores are treated in isolation of the course training.

The teacher candidates indicated that more training prior and during field experiences would benefit their understanding on how to modify instruction based on student data. The candidates explained the purpose of using the data but explained that there was a lack of practice to use the skill. The focus of this case study on the teacher candidates' perceptions about DDI and whether there was a gap between their scores and actual experiences.

Section 3: The Project

Introduction

I used the conceptual basis for DDDM to outline the PD workshop for the Residency II teach candidates. The DDDM theory of action and organization helps the teacher candidates to understand the relevance of data to make informed decisions (Gill et al., 2014). The workshop will be an opportunity for the Residency II teacher candidates to strengthen the skills needed to make data useful during their field experiences. According to Caulkin and Brinthaupt (2017), it is essential to support new teachers in conceptualizing their thoughts and beliefs in the role of a teacher. It is fundamental to a school's success to provide the necessary teacher support to address current educational methods and strategies; however, the multifaceted challenges that schools are faced with, such as servicing diverse student populations, integrating technology, and laborious efforts to align to standards, places financial and time constraints on PD agendas. Exhausting school days render educators' energies insufficient for reflection on student data and feedback for functional use implementation of modified instruction.

Wieczorek (2017) indicated that teachers' participation in PD decreased during the implementation of the NCLB. Wieczorek (2017) continued on to state that accountability for PD should be designed more with consideration of classroom teacher needs as changes occur in community and school demographics. Professional development must be an inquiry-based practice that encourages the teacher candidates to be engaged in their continued learning and instruction (Wieczorek, 2017). Therefore, the

approach I used for the framework of a flipped PD program was planned and organized around the teacher candidates' specific needs as determined by data collected on their students' achievement. Reversing the typical administrator-centered style of providing workshops on broad, generic topics, PD I developed assumed a more personalized, teacher-centered setting. Juma, Lehtomaki, and Naukkarinen (2017) stated that giving teachers the opportunity to think reflectively on pedagogical practices can enhance their skills and encourage them to assume leadership roles in addressing specific concerns with their course subjects.

Prior to participation in my PD workshop based on concepts from Lange's (2014) Data Rich Information Poor to Data Rich Operationalized Process, the teacher candidates will be individually e-mailed questions about perceived, necessary tools to specifically address the edTPA Standard 3, Rubric 15: use of assessment to inform instruction in their upcoming field experience. Responses provided by the candidates will guide the outline for the DDI workshop agenda. Teacher candidates will be sent the agenda with links to videos, graphs, and articles to be covered in the workshop.

Similar to the outcomes reported by Post (2018), in the PD workshop, tailored to connect teachers with other teachers, the benefits of sharing similar goals and challenges will be anticipated. The goal will be for participants to better understand expectations of the EDTPA, TEAM, and mentor data-driven instructional assessments. Teacher candidates will then identify the degree to which the EDTPA Standard 3, Rubric 15 has been modeled for them. Two of the 3 days will include 7-hour sessions divided into categories to assist the Residency II teacher candidates in defining, modeling, and

analyzing assessment addressing DDI skills. The third day will be scheduled to occur after the candidates' field experience in which presentations on DDI will be shared.

Rationale

For advancement in the programs of study and eventual licensure, teacher candidates must meet minimum, required expectations of the EDTPA, TEAM, and mentor evaluations. Among the varied proficiencies required, the EDTPA Task 3, Rubric 15; TEAM; and mentor teacher evaluation rubrics measure the abilities of the candidates to implement DDI during their field experience. The different wording and scales of these three measures challenge EPP directors to understand the adequacy of candidates in classroom implementation of DDI. The impetus for this specific PD workshop is to narrow the focus and allow teachers leadership roles (see Post, 2018) in determining how to best perform DDI. Modifying extant PD models in educational systems will require a move from centralized, generic training of teachers to localized problem-solving sessions driven by site-based data analysis.

As this action plan is implemented, both candidates and mentor teachers should realize benefits through their meaningful conversations about DDI. Lange's (2014) suggestion of keeping it simple served as a prompt for a plan whereby the candidates would initially work with only one student to address learning needs revealed by the students' data. More focused mentoring of the candidates will be anticipated as cooperating teachers should be able to better guide the preservice teachers through concentrated, individualized instruction.

Vital to maintaining high practices of effective, efficient, and evidence-based exercises (Webster-Wright, 2017), the U.S. Department of Education (2016) has stated that it is important that all teacher-training programs prepare preservice teacher candidates to effectively select, evaluate, and use appropriate data to advance student engagement and learning. However, time constraints in both the schools' schedules and the teacher candidates' duration of field experiences may prevent preservice teachers from being as effective in their evaluations based on appropriate data. Therefore, it will be necessary to provide more time-efficient, in-depth, and purposeful practice of DDI. Otherwise, teacher candidates may face barriers meeting the benchmark for EDTPA Standard 3, Rubric 15.

Most importantly, based on results from the Qualitative Survey for Residency II Candidates, preservice teachers revealed a lack of confidence in their DDI skills. Despite variance in responses on the survey, candidates who simply passed the EDTPA assessment moved forward toward licensure with no additional differentiation in support. Beers and Butler (2016) also reported that teacher candidates were often treated the same with no regard to specific levels of proficiencies. If candidates in my proposed PD workshop can give some autonomy to collaborate on resolving their struggles together, the findings of Thurlings and den Brok (2017) would suggest that progress toward proficient use of data is likely to be enhanced.

Review of the Literature

I outlined and developed the background for the workshop by performing searches for literature on PD for new teachers. The four categories of research-based

studies used to address PD for the Residency II teacher candidates involved: (a) past and present PD, (b) differentiation, (c) collaboration, and (d) self-efficacy. My literature review included searches of ERIC, Education Source, and SAGE databases using the above four categories in PD for teachers. My search of the ERIC database yielded a total of 461 results, while Education Source produced 545 search results. The SAGE database was used to research the four categories for a total of 565,113 articles in all categories. I also used the Google Scholar search engine to research different types of software applications for taking polls, which yielded over 13 million results. ERIC and Education Source provided 82 research articles related to support of engaging PD based on the four categories indicated. My search of SAGE was narrowed by focusing on teacher education and special education. The *Journal of the Teacher Education Division of the Council for Exceptional Children*, May 2018 issue, provided five articles on teacher PD, with 2 of the 5 articles proving beneficial to this study.

This literature review involved researching different ways to increase engagement for candidates in the proposed workshop. Rather than a typical administrator-centered approach for the workshop, the goal of this workshop was to help the teacher candidates be advocates for their own PD needs in a way that would benefit their field experiences. I predicted collaboration among colleagues prior to the field experience to enhance the soft skills needed as they interact with educational professionals during their field experiences. The PD will guide candidates through inquiry-based practices because Margolis, Durbin, and Doring, (2017) suggested that these practices would facilitate the teacher candidates in learning how to make changes themselves.

Starting the review with past and present PD workshops, there appeared to be agreement in the literature that PD needs to undergo changes from the usual, top-down training of teachers to more of a shared, problem-solving format (see Huang, 2016; Post, 2018). I expect the tailoring of the proposed workshop to specific deficiencies of candidates to better meet the teacher candidates' needs in skill development. Margolis et al. (2017) stated that instead of a one-time experience, PD should be an evolving process that encourages teachers to be lifelong adult learners. Congruent with the findings from Meijs, Prinsen, and de Laat, (2016), the benefits of the teacher candidates sharing their knowledge, skills, and deficiencies in the proposed workshop was anticipated to be a productive and valuable approach that builds the teacher candidates' autonomy during their field experiences.

Differentiating Professional Development

A community of practice involved a group of learners who work to improve themselves through communication, shared resources, and accomplished tasks can benefit from each other (Kong, 2018). This community of practice describes the kind of professional characteristics and identities teachers need to experience in their PD (Kong, 2018). The teacher that can be the center of their own PD creates a highly engaged learning community of practice (Meijs et al., 2016). The advantage of the teacher-centered approach would be that the specific deficiencies in skills could be addressed rather than a broad sweep of topics irrelevant to individual instructional needs. Kong (2018) stated that PD needs to be an experience that concentrated on explaining current issues and essential suggestions that changes the situation of disconnect between the PD

and teacher support. The need for teachers to develop professionally requires a transformative rather than additive change to teaching practices (Timperley, 2011). In their careers, teachers will be expected to differentiate their instruction based on the students' academic needs. Likewise, teachers will need their PD to be personalized with differentiation that will remediate weaknesses and enrich their instruction.

One concern of teacher candidates, based on the qualitative survey of Residency II candidates administered in this study, was that group support was the same, with an end goal of passing the EDTPA cutoff score, regardless of perceived and/or real inadequacies in specific areas of their teaching. The high-stakes expectations of the EDTPA had apparently standardized the teacher candidates' courses and training. Differentiating PD would likely allow candidates to take ownership of their learning and make more precise applications of learned skills and knowledge during their field experiences as the findings of Beers and Butler (2016) suggest. As Caulkin and Brinthaupt (2017) reported, candidates are likely to become reflective thinkers about their own instructional needs as revealed by objective analysis of their students' data, if the support given was individualized.

According to Juma et al. (2017), scaffolding the support for teachers' understanding of pedagogy helps addresses specific areas in their instruction. Allowing teachers to help tailor support in the proposed PD workshop would likely encourage leadership skills with positive impacts for their students. Gonzalez and Skultety (2018) noted that teacher-initiated discussions of students' prior knowledge were more substantive than facilitator-initiated discussions. My proposed workshop would take a

bottom-up approach and is anticipated to have more meaning and purpose in addressing challenging topics as was found by Macias (2017). When the teacher candidates can identify their own learning needs, then they can better determine the learning needs of others.

Moghtadale and Taji (2018) stated that the three indicators that have impacted TD included individual, social, and organizational benefits. The individual benefits involved livable wages, benefits, job satisfaction, and job security; the social benefits encompassed the community's respect, confidence, and credibility; and the organizational benefits included a commitment for achieving goals and productivity (CITE). However, societal and political evidence has focused on the output of the required standardized assessments of students' academic performance that has distracted from the basic input benefits of TD (CITE). Consequentially, this has resulted in a lack of support for teachers to develop strategies or skills that work or do not work during their instruction (Ababaf, Farasatkhah, Mehralizadeh, & Fathi, 2014).

Moghtadale and Taji (2018) compared TD to the definition of employee development (ED) as a professional approach that would develop the level of basic knowledge, efficiency, skill, and satisfaction for individual or organizational benefits (Ghulamzadeh & Ghalichli, 2006). ED was an intuitive, professional approach that over time allowed employees to develop their new ideas, self-confidence, problem-solving, and research skills (Lee & Kim, 2001). The TD and ED of a teacher included competencies that can be achieved during their teaching and learning that enhanced their cognitive, intellectual and emotional qualities (George Town College, 2011). These

teacher competencies promote the mental knowledge and skills necessary for the development of their own students.

Improvements in TD and ED was vital to the continued training of teachers to ensure the quality of education in schools (Moghtadaie & Taji, 2018). Ghanizadeh, Jafari, and Gholighorchian (2017) confirmed by stating that the importance of educational goals was contingent on TD. The teacher competencies that helped them develop their skills served an important role in educating students.

Collaboration in Professional Development

Teacher collaborations was a useful school-based PD activity, where in-service teachers planned, observed and reflected on lessons together (Rempe-Gillen, 2017). Teacher collaboration enhanced their PD through a systematic and well- interconnected process of shared ideas and knowledge that resulted in an 'exemplary lesson' (Rempe-Gillen, 2017). PD involved the efforts of facilitators and participants alike. In this study, lead presenters should not dictate, in generalities, assumed problems and panacea solutions for unique teacher and classroom situations. Learning from others has been reported to be a productive and valuable addition to formal PD (Meijs et al., 2016). Teachers engaged in the proposed workshop will work together in a collaborative effort for benefits across all classrooms in schools. Following Acar, Li, and Yildiz (2016), it will be necessary to encourage teachers to be involved in addressing current education issues encountered in the classroom. By doing so, it will be expected that teachers who make changes themselves question their practice and grow professional as found in a study by Margolis, Durbin, and Doring (2017).

Collaborative efforts to develop professionally throughout the school year was beneficial to the teachers' instruction experience than just a 1-day training workshop (Rempe-Gillen, 2017). The teachers' collaborative endeavors instilled greater confidence in their ability to make a difference in their students' learning. The cooperative environment intended for the proposed PD workshop would allow the preservice teachers to share learning targets for students in their subject areas, assessment strategies, and feedback data from selected students. Working in concert, candidates will be empowered to develop instructional modifications to test in their classrooms. Acar et al. (2017) and Masood, Alnuaimi, Mohaidat, Yang, and Al-Rashedi (2016) agreed that teachers must be active learners and participate in their own PD. Gonzalez and Skultety (2018) went further in stating that teachers' observations of their students' academic knowledge and understanding were more significant to PD than the facilitator lecturing on pedagogy.

Kelly and Cherkowski (2015) stated that professional learning communities were a convenient organizational method for offering opportunities for teachers to connect their learning, and to improve their instruction collaboratively. Idros, Sulaiman, and Mahbob (2012), stated that this quality of instruction involved communication, cooperation, and coordination between a school's administrators and teachers. Teacher collaboration shifted teachers from isolated instruction practices to a more in-depth examination of their pedagogical skills. The processes of collaboration promoted an environment among educators that encouraged continued learning and enhanced accountability. Collaboration among teachers was a key opportunity that helped improve teachers' quality of instruction (Ismail, Muhammad, Kanesan, & Yaacob, 2018). As a

result, the efforts of teacher collaboration can instill confident and effective leaders to want to improve their quality of teaching (Yangaiya, 2015).

The collaborative efforts of teachers involved more than interactions but included transformation of the teaching methods and curriculum (Kalin & Steh, 2016). A mutual respect for each teacher's own autonomy was imperative to the collaborative efforts in addressing the real-life social issues in the classroom. Therefore, the educators' collaborative efforts provided valued insights resulting in an assembly of improved instructional methods.

The proposed PD workshop will be an opportunity for Residency II teacher candidates to enhance their skills as they collaborate, coach and assess each other's understanding of DDI prior to their field experiences. The suggested interactions should facilitate development of the candidates' leadership abilities and bolster their self-efficacy as results from other studies (Boylan, 2018; Thurlings & den Brok, 2017).

Professional development and self-efficacy

The teacher's self-efficacy would involve innovation and a positive attitude toward teaching students. These attributes necessitated for a teacher to balance academics, arts, and ethical values. Teachers who demonstrated qualities such as flexibility, cooperation, empathy, respect, and compassion were comfortable with a change in student expectations. The focus of the teacher's self-efficacy in the classroom was fundamental to the teacher candidates' professional development. The candidate's self-confidence increased their self-sufficiency when provided the opportunity to engage actively with students before their field experience (Demirtas, 2018). The opportunity to

interact with the students provided the teacher candidates the opportunity to internalize a deepened understanding of field knowledge and improved skills. Understanding the importance of a teacher's self-efficacy explained the importance for the candidates to experience a one-on-one student data analysis during the 3 day workshop. When the candidate comfortably recognized their capabilities, then the student would be able to achieve the desired academic results.

In the process of learning to teach, the individual candidates' differences in their personal attitudes, motivation, and self-efficacy need to be considered (Sen, 2016). These life's experiences are an edifice that help teacher candidates build their own learning goals and skills to develop their teaching. What was important to the candidate's self-efficacy was that their course training and field experience emphasize the usefulness of collective teacher associations to help shape effective instruction (Ninkovic & Floric, 2018). Teacher candidates who are encouraged to value their collective efforts can affect the quality of teaching and learning. However, if the candidates' efforts are dominated and emphasized by an external assessment then teacher efficacy leads to a cycle of failure for both students and teachers (Ninkovic & Floric, 2018).

Based on Bosso (2017), a teacher's perseverance and dedication to the job are interconnected to their professional self-efficacy. Bosso continued that the increased external mandates conflicted with the internal moral and affective purposes of the teacher's work. Teachers are confined by the intensifying bureaucratic expectations that dominate their instruction. Fullan (2011) validated the significance of intrinsic alignment with the teacher's professional insight with their students' work. This explained the

importance of the teacher candidates' self-efficacy to be a teacher and the inconsistency they faced during their training and field experience. Prior to the Residency II student teaching semester, teacher candidates reported stress from coursework of their Residency I semester and the realities of the impending edTPA requirements. Although the edTPA rubrics are explained throughout the candidates' program of study, they often express feelings of insufficiency in their understanding of the three main tasks.

The candidates lament the scarcity of time to seriously consider strategies for lesson planning, instruction, and assessments. One of the goals of the proposed workshop will be to give the teacher candidates the opportunity to think reflectively on how they can bring about desired results from their tasks in the most efficient ways. Mahler, Grobschedl, and Harms (2017) suggested that it was important to recognize what motivates teachers to be effective in their teaching. They continued by suggesting three areas that motivate teacher candidates included self-efficacy, enthusiasm for their subject area, and excitement to teach. Studies from Yoo (2016) and Mahler et al. (2017) found that quality, participant-centered PD allowing for deeper study of their teaching practice increased the teachers' self-efficacy. Rutherford, Long, and Farkas (2017) reported that the self-efficacy of teachers positively impacted their students' achievement. The Residency II teacher candidates will need the opportunity to experience autonomy during their field experiences. If the candidates can become functional users of student assessment data to guide their planning and instruction, they can confidently offer professional input during collaboration with other educators and more readily assimilate into their school culture.

Support for Professional Development

The financing of American education has been a constant struggle for distributing equitable support for teachers' PD. A school's budget was a litmus test of what valuable investments should be made to ensure access to quality teachers. The limited funding for schools can be stretched over costs such as the school's maintenance, the teachers and administrative salaries, transportation, and support services (Concordia, 2018). The average cost that the United States spent on educating students was $11,392 per pupil (Concordia, 2018). The expenditure of allotted monies toward professional development have to be balanced with the effectiveness of continued teacher training (Foster, Toma, & Troske, 2013). How teachers are trained and licensed can improve teacher quality which influence measureable differences in students' learning (Foster et al., 2013). These low cost interventions are important to boosting teacher quality.

According to Iyunade (2017) research study, the teaching profession should involve continuous PD of compentencies and skills in order to stay current with ever changing societal demands. The investment in teachers' PD should concentrate on the systematic reforms and structural changes of school practices so that a clear vision of purpose would not be swayed by superfluous educational amendments (Iyunade, 2017). In order to support PD for teachers, it was imperative that a modification of current views and practices be examined so that opportunities to construct new meanings are encouraged (de Paor, 2016).

According to Darling-Hammond, Hyler and Gardner (2017), a research study of four districts serving low-income students learned that more than $18,000 in financial

support for the teacher professional development saw inconsequential modification in teacher practices or students' performances. Darling-Hammond et al., (2017) stated that professional development required a change in definition that would better serve and improve the teachers' professional learning.

Teacher Goals and Professional Development

It was important for teachers to establish personal professional goals to keep current with teaching practices as professionals. Successful PD should be closely related to the teachers' goals and practices (Kalinowski, Gronostaj, & Vock, 2019). A personalized PD encouraged new knowledge in the reflective practices in the classroom (Kalinowski et al., 2019). One recommended way for teachers to develop those personal goals was to mentor future teachers during their student teaching experience. Hudson (2012) statedthat mentoring was a growth for the student teacher and a benefit to the teacher's PD. A teacher must acknowledge the significance of continuing education in order to be a professionally competent educator (Sumaryanta, Mardapi, Sugiman, & Herawan, 2018).

A teacher's work load involved more paperwork, standardized testing, clerical tasks, social-emotional skills, and extracurricular activies (Kanbayashi, 2016) that hindered the teacher's time to develop professional teaching goals. These time constraints make it necessary to precisely organize and constructively schedule the school day to benefit not only the students but the teacher as well. The mentor-mentee relationship was advantageous for both to professionally enhance their skills (Hudson, 2012). Hudson (2012) stated that professional development benefitted teachers'

communication skills and reinforced their pedagogical knowledge and curricula. PD benefitted the teacher's level of expertise to effectively utilize their content knowledge according to Hudson (2012).

What was significantly important in the mentor-mentee relationship was that the reciprocal arrangement included the mentee's important role to suggest new and current educational strategies and methods (Hudson, 2012). Hudson (2012) research validated the importance for the Residency II teacher candidate's DRIPs to DROPs three-day workshop to include their mentor teacher during and after their student teaching field experience. Hudson continued to state that mentoring was a developmental process that endowed teachers' leadership opportunities that fostered confidence and professional determination.

PD opportunities should focus less on teaching techniques or facts that are solely transmitted to a passive group of teachers. Lotter and Miller (2016) recommended that PD involve an inquiry-based approach that require teachers to reflect in-depth on their practices. Dewey (1933) stated that reflective thinking formulates from uncertainty and steers to a process of problem-solving. The professional development should be a community of practice for the teachers to discuss new learning strategies (Lotter & Miller, 2016). A community of practice allowed teachers to learn differing instructional styles that helped them with curriculum content. Lotter and Miller (2016) stated that changing teachers' thinking through professional development can provide them with active learning opportunities that instill new teaching strategies. Park, Lee and Cooc's (2018) research study indicated that educational abilities at the group level influenced

clearer assessments about educational procedures. The teachers' goals to construct a positive learning environment was influenced by the principal's support for shaping a professional learning community (Park et al., 2018).

Effective Professional Development

There has been an effort to change the one-day workshop into a more purposeful vision for teachers to have meaningful opportunities that enrich their educational skills. Research conducted on effective PD indicated that there are significant criterions that can effect teachers' knowledge and practices (Darling-Hammond et al., 2017). The demands for student learning to be more engaged and problem-solving skills instead of simple recall and memorization had placed greater expectations on teachers to improve their skills also. Effective professional development was not an isolated workshop that attempted a quick instructional fix. Professional development has to transformed into an ongoing professional learning process that strengthens the collective efforts in a a school (Park, et al., 2018).

Instead of short-term PD solutions that happen afterschool, there needed to be prospects of job-embedded endeavors that strengthen teachers' learning and practices (Darling-Hammond et al., 2017). In their study, Darling-Hammond et al., (2017) tenaciously strived to recognize the type of professional development instruments that result in professional learning, instructional enhancement, and greater student learning. An effective PD according to Darling-Hammond et al., encompased "content focus, active learning, collaboration, job-embedded contexts, models and modeling, coaching and expert support, feedback and reflection, and sustained duration" (p. 4).

Teachers have insightful learning experiences based on real-time events that take place in the classroom. These insights according to Darling-Hammond et al., (2017) must be utilized as valuable means for new learning. When teachers shared these valued learning experiences it provided them with an opportunity to reflect on their own learning and development as an educator (Darling-Hammond et al., 2017). What was significant in Darling-Hammond et al study was that professional learning involved the teachers being able to continue learning outside the formal setting of an after school workshop. When the emphasis of professional learning included real-time application of strategies and concepts within the classroom setting, the teachers took on the role of researcher investigating and enriching their curriculm. Effective PD for teachers can be measured based on the following levels: teachers' agreement with the PD interventions, change in their educational knowledge, motivation and beliefs regarding classroom practices, and student learning (Kalinowski et al., 2019). These specific PD measures should be linked to the teachers' own experiences, interests and needs to be accepted.

Administration and Professional Development

Administrators serve a significant role for establishing an environment that promotes collaboration among their teachers. This crucial skill of collaboration helped teachers share instructional strategies and collective expertise (Ketterlin-Geller, Baumer, & Lichon, 2014). When teachers used their time effectively and productively to delve into a sustainable, evidence-based instruction and assessment practices, their own professional learning would be enhanced. Administrators who organized teachers combined skills to develop proficient that included current research, group discussions,

and individual professional learning (Ketterlin-Geller, et al., 2014) supported their teachers professional development needs.

The valued support of an administrator can ensure that the implementation of instructional practices within the classroom are adhered to so that not only students benefit but that teachers gain improved skills as well. Administrators need to be sensitive to the time constraints that teachers face on a regular basis by establishing a routine scheduled occasion for teachers to collaborate on efforts that build a stronger learning community. Administrators who take the time to invest in professional development as an ongoing process made a stronger impact on deepening teachers' and students' learning (Darling-Hammond, et al., 2017). The supportive efforts of an administrator can empower teachers' professional expertise, autonomy, and involvement that encourage self-efficacy and embrace new concepts and instructional strategies (Balyer, Ozcan, & Yildiz, 2017).

Park et. al (2018) stated in their research study that principals' can have a constructive impact on professional learning communities through leadership coaching, and mediations to advance teachers' expectations. They continued that "principals should give more attention to exerting supportive and egalitarian leadership instead of focusing on restrictive leadership and managing behaviors" (p. 8). In this study, research indicated that shifting a school into a professional learning community had progressive outcomes for teachers and students.

Summary

In summary, the literature on the peer-reviewed sources was a rich saturation signifying the importance of professional development in the educational field. Based on the peer-reviwed sources indicators showed that PD transformations were necessary to the professional learning community within the school systems. PD was no longer considered a workshop that imparted quick facts or skills, but instead was transformed to a personal and relative real-time experience that involved a longer duration of time for meaningful reflection.

Effective PD should be a concentration on the pertinent issues and concerns that teachers encountered in class. Teachers who are overloaded have little sense of resolve and meaning in their instruction if they are not engaged in purposeful content, strategies and outcomes. According to Yoo and Carter (2017), appreciation for the teacher's personal and professional goals and values would increase the quality of teaching. Yoo and Carter emphasized that "teachers who experience emotional exhaustion cannot meaningfully engage in their work" (p. 39). Therefore, an effective program that promoted PD for teachers considered on-going personalized experiences that empower the teacher's autonomy while maintain high standards of accountability.

Project Description

The project description for this research was to identify any incongruence among three measures for the competency of Residency II clinical teacher candidates to modify instruction based on assessment data according to edTPA Standard 3, Rubric 15, TEAM and mentor rubrics. The project is to ensure that if there was incongruence among the

three measures that the Residency II teacher candidates can excel at demonstrating their purposeful collection of data and analysis on one student during their field experience. The DDI: DRIPs to DROPs PD workshop will be an avenue for the Residency II teacher candidates to organize their training and knowledge to implement DDI effectively. The teacher candidates will be given an opportunity to take a leadership role during their field experience by sharing their data findings with their mentor teacher.

The needed resources for this 3 day workshop include computers with WiFi availability, hand-outs of the daily schedule, provided research studies, edTPA and TEAM instruments and data. The existing supports that will already be available to the teacher candidates include a handout of links to websites that will be used during the workshop. These same website links will be e-mailed to the teacher candidates with the PowerPoint so that they can have two options to access the information for the workshop. A lecture hall will be set-up with bottled water and snack so that the teacher candidates are in a comfortable environment.

Some potentional barriers that the teacher candidates may have to deal with is the inability to access the WiFi or that the WiFi runs slowly. Another concern regarding this workshop is that not all teacher candidates will participate in the opportunity to learn about DDI. There may be time constraints that will hinder the candidates to participate or they may feel that they are prepared to implement data-driven instruction. Another possible barrier to conducting the 3-day workshop is that the teacher candidates do not return on the third day to present their data research findings with their colleagues.

Efforts will be made to be proactive in addressing these potential barriers by contacting the IT department to ensure the WiFi will be available during the workshop. It is my goal to include this workshop as part of the assessment course offered to the candidates so that they receive credit for their time and efforts to learning DDI. Collaboration efforts will be taken to discuss with the department chair and course professor on how the workshop can be an integral part of the assessment course.

The implementation and timetable is carefully described in detail as follows. The roles of the workshop presenter and teacher candidates are clearly explained so that the objectives for this workshop will help guide the training. The goal of the training is to instill some simple steps towards using data-driven instruction during the teacher candidate's field experience. The candidates' will be able to reflect on their data skills and share with their colleagues their findings.

Day 1: Data-Driven Instruction: Drips to Drops

Session 1: Category: data collection and analysis. The first day of the PD workshop begins with the morning session from 8:00 AM-12:00. The session will open with the following quote from Allan Bloom (1987) displayed on the DDI: DRIPs to DROPs PowerPoint while teacher candidates entered the lecture hall. Education in our times must try to find whatever there was in students that might yearn for completion and to reconstruct the learning that would enable them autonomously to seek that completion.

The next slide of the PowerPoint is an introduction to my educational experiences and qualifications as an instructor and researcher. The third slide lists the objectives on how to utilize **D**ata-driven instruction, **A**ssessment (formative), **T**eacher collects and

analyzes, and **A**ddress (DATA) including Lange's (2014) data-driven decision making conceptual framework. The teacher candidates will be guided to click on the link (e-mailed with agenda) of the colored data chart that displayed the edTPA, TEAM and mentor rubrics that specifically address DDI. I will discuss the emphasis of data-driven instruction within each of the rubrics that were used to assess the teacher candidates' abilities to conduct data-driven instruction.

After viewing the data chart, the Residency II teacher candidates will be asked to make observations of the edTPA, TEAM and mentor rubrics that addressed DDI. There will be a 2 minute wait time; then I will move to the next slide of the presentation that posed questions about the edTPA, TEAM, and mentor rubrics. How did these data points help you as a Residency II teacher candidate? Did you rely on one data set more than the other to help guide your data-driven instruction? Why was it necessary to use several tools of measurement to identify your ability to implement data-driven instruction? These questions help scaffold the teacher candidates' understanding of the importance of assessment when implementing data-driven instruction (Beers & Butler, 2016). Once the discussion addresses the importance of data for them as the student, the whole group will be guided to look at the importance of data from the teacher's perspective.

The Residency II teacher candidates will be guided in a discussion about their observations during their prior field experiences compared to what is expected with the edTPA, TEAM, and mentor rubrics. Two questions will guide this discussion: (1) Do you as a teacher candidate understand how DDI is practiced? (2) Do you feel adequately prepared to implement DDI during your Residency II field experience? The purpose of

these questions will be to enhance the PD experience to be more than a lecture but instead to be an active approach that had a positive impact on the teacher candidates' effectiveness (Kyriakides, Christoforidou, Panayiotou, & Creemers, 2017). Therefore, the next task will involve the teacher candidates using prior knowledge from their experiences to share how DDI practices are implemented in the classroom. I created a visual word cloud in Wordle (2014) for the teacher candidates to visualize their responses. The goal of this simple visual is to give the teacher candidates an idea of whether their prior experiences with DDI informed them on how to implement DDI in the classroom.

The typical PD is an administrator-centered approach with little or no input from the teachers according to Differentiated Professional Development for Teachers (2016). Teachers benefited from engaging activities were included in the workshop so that the Residency II teacher candidates' can actively contribute to their valued PD. The teacher candidates will respond in Pollmaker to five statements about the use of DDI by ranking it with a one, two, three, four or five (Appendix E). Once all teacher candidates completed the qualitative survey the data is collected, shared, and analyzed. The responses from the teacher candidates' will guide the discussions throughout the day's sessions. Engaging the teacher candidates in various activities can be ideal for improving participation and readiness in specific strategies (Beers & Butler, 2016).

A brief video of *How data helps teachers* (Data Quality Campaign, 2014) will be shown to the group. The Residency II teacher candidates will use this video as a frame of context in which to compare their experiences with DDI during prior field experiences.

The teacher candidates will rate their observations in DDI as none (0), some (1-2) of the time, most (3-4) of the time or all (>5) the time during their prior field experiences. The teacher candidates will be guided to log in to Pollmaker to cast their vote. Once all votes had been entered the class will make observations of the data. Then as a whole group, we concluded results about the presented data. Based on all three data collection activities that will be conducted, the Residency II teacher candidates will be asked to explain how modeling this data collection and analysis helped address the gap between the required rubric expectations versus the ability to practice or see data-driven instruction practiced in the classroom. This technique offers the teacher candidates a way to conceptualize their own goals (Margolis et al., 2017).

The Residency II teacher candidates are provided a note card to respond to and consider how they can implement DDI if it was not practiced on a frequent basis during their field experiences. The Residency II teacher candidates will be given 3 minutes to write individual and reflective responses. Juma et al., suggested that if teachers were given the opportunity to reflect on practices in pedagogy they can serve essential roles in making changes in their schools. The individual teacher candidates will be separated into small groups to share and discuss their responses that were made on the note cards. The teacher candidates were provided with a large poster paper to write down their responses to the following questions that will help guide their small group discussion: (1) share one way you can implement DDI during your field experience, (2) share how the experience might help your instruction, (3) share how the experience might benefit your student(s). I will circulate the room to check on groups' discussions and will determine when to

complete their time based on those discussions. The groups will come back together to share responses that were discussed and written down in their small groups.

Day 1: Data-Driven Instruction: Drips to Drops

Session 2: Category: formative assessment and data-driven instruction: The afternoon session will begin promptly at 12:35 with a summary of the morning session activities as well as the teacher candidates' summary reflections. The teacher candidates moved around the lecture hall by deciding on whether they strongly agree, agree, neutral, disagree or strongly agree with each summary or activities' discussion results were read to them. Discussions took place after each summary statement, or discussion statement was read to the teacher candidates. Once the discussion was completed, the teacher candidates returned to their seats to individually write a summary on how the different types of assessment used throughout the day checked their understanding about data-driven instruction helped them to identify areas that needed attention. The teacher candidates' ability to collaborate was a positive impact on teachers' PD according to Acar and Yildiz (2016).

According to Macias' study, PD that was teacher-led allows the participants to get involved in discovering new strategies and confronting difficult topics that can foster teacher efficacy. The rest of the afternoon session will be spent introducing the *Six Ways to Promote Data-Driven Instruction in K-12 Schools* (Lange, 2014). Lange recommended keeping it simple, think small, analyze efforts, engage students, make progress visible, and be transparent. Individually, each teacher candidate will define each one of Lange's six ways to promote data-driven instruction on a piece of paper. We will

then come together to discuss and finalize the definitions as a group. While watching the video that explains data-driven instruction, *Show me the numbers: how we use data to inform instruction* (HMS/WJHS, 2013) the teacher candidates will learn the difference between being data rich and information poor (DRIPs) versus data received and operationalized processed (DROPs). After watching the Homer Simpson video, the teacher candidates will discuss what needs to be included on a student's dashboard-demographics, student accountability, ISAT (PARCC) scores, performance series, and reading and math scores.

The teacher candidates will be divided into small groups and given student scenarios to fill out on a student dashboard form. Once the dashboard has been completed, the small groups will then address any modifications in instruction based on the data. The groups will present their findings to the whole class. Teacher candidates will wrap up the first day session by listing Lange's (2014) six steps on how teachers can implement DDI on a provided note card. Once the teacher candidates hand-in their cards, they will be asked to reference the last PowerPoint slide that provides the necessary information for the second-day session.

Day 2: Data-Driven Instruction: Drips to Drops

Session 3: Category: Implementation. The second session of the workshop will start promptly at 8:00 with me reviewing yesterday's terms and concepts on a flow chart. Next, there will be a review of what is a formative, summative and diagnostic assessment. To carry out this review, the teacher candidates will classify a list of assessment scenarios as formative, summative, or diagnostic (Appendix J). The teacher

candidates pair-share their brief descriptions of the various ways they could use each type of assessment during their upcoming field experiences. The small groups will come back together as a whole group to discuss and provide examples of each of the three assessments. This simple activity will be beneficial for teacher candidates to explain, share and enhance their knowledge (Meiss, Prinsen, & deLatt, 2016).

Residency II teacher candidates will individually create an action plan flowchart on how they plan to address DDI during their field experience referencing Lange's six steps. The action plan flowcharts included the dashboard form, terms, concepts and reviewed definitions during the sessions. A rubric listing the expectations for the action plan flowchart will be handed out to each teacher candidate. The teacher candidates used their laptops to create a flowchart in Microsoft word document using SmartArt. I circulate the room to check on teacher candidates' work referencing the rubric to guide the teacher candidates. Once the individual action plan flowcharts met rubric requirements (Appendix I), the teacher candidates will be dismissed for a 1 hour lunch break.

Day 2: Data-driven Instruction: Drips to Drops

Session 4: Category: action plan-flow chart. After a lunch break, Residency II teacher candidates were given additional time to finalize the action plan flow chart before conducting a pair share with another colleague. When all individuals had met all rubric expectations, then the teacher candidates would conduct their first pair-share using the following questions to guide their discussion: (1) where did you implement this action plan flow chart during your field experience, and (2) how did you assess daily progress?

Masood, Alnuaimi, Mohaidat, Yang, and Al-Rashedi (2016) emphasized the importance of teachers being active learners that practice collaboration. Therefore, a second pair-share will be conducted again with a different colleague to help clarify and explain their action plan flow chart. I will continue to circulate around the pair-share groups to listen for key terms, presentation, and discussion.

To wrap-up, the day, the Residency II teacher candidates were required to e-mail me an electronic version of the action plan flow chart for their DDI. An assigned date was given for all action plans to be completed and submitted. They were required to implement the action plans during their field experience. The teacher candidates needed to get my approval before implementation of the action plan flow chart. Once the plan is approved, then the Residency II teacher candidates will be expected to implement the plan addressing at least one but no more than two of the students' academic learning needs. The Residency II teacher candidates were required to discuss their findings with their mentor teacher. A required signed note will document the Residency II teacher candidate and mentor teacher conference meeting about the DDI action plan.

Day 3: Data-Driven Instruction: Drips to Drops

After the Residency II teacher candidate's field experience, the day three workshop session will involve the Residency II teacher candidates presenting their action plan flowchart with an approved and anonymous student's data after their field experiences. Based on Mohan, Lingam, and Chand (2017) engaging the Residency II teacher candidates to share their action plan and the results made them the experts. The session begins with a bell-ringer asking the teacher candidates to share their experiences

using DDI. Once, we have transitioned from the bell-ringer discussions; the Residency II teacher candidates share their action plan flow chart in a PowerPoint format. The average Residency II teacher candidate class size will include about 30 students. I will allow for the entire day for the Residency II teacher candidates' presentations. A wrap-up session at 2:30-3:00 concludes the day with the following question: How did Residency II teacher candidates use this experience to help them write their edTPA lesson plans? From this experience, the coaching by mentor teachers, and collaboration with colleagues can benefit their knowledge and enhance their skills (Thurlings & den Brok, 2017).

The purpose of this 3-day workshop will be to encourage Residency II teacher candidates to delve further into their understanding of DDI. The major part of this training will be to involve the teacher candidates in modeling what data-driven instruction looks like for a student's learning. Also, it benefits the mentor teachers to have a more in-depth and purposeful discussion about DDI with the Residency II teacher candidates. Self-efficacy for the teacher candidates will be crucial for developing confidence in their PD (Mahler et al., 2017). When teacher candidates are provided the opportunity to develop professionally, their knowledge and skills will be more purposeful for them and their students. A wrap-up session will be given for the Residency II teacher candidates to answer the questionnaire about PD workshop.

Potential Resources and Existing Supports

The project's needed resources include a computer lab facility where the workshop can be conducted. It will be beneficial to the Residency II teacher candidates if

they have their own laptop and Wi-Fi access during the workshop. The existing supports that will be available to help with the project included the college of education educators, teacher mentors, and access to the edTPA lesson plan and data. Some potential barriers for the project to be successful could be the email access of all Residency II teacher candidates during the workshop and field experience. The potential solutions to ensure e-mail access to all Residency II teacher candidates will be to create a data table of their e-mails through the university's e-mail server. It will be important to maintain contact throughout the teacher candidates' field experience to offer support and answer questions. Also, a reminder of their follow-up presentation during the third day of the workshop will be sent to all Residency II teacher candidates.

The proposal for implementation includes three days of a data-driven instruction workshop. The PD workshop agenda (Appendix A) will be provided to each Residency II teacher candidate through an e-mail before the workshop. This agenda will give the teacher candidates an opportunity to look over the agenda and make any preparations for the workshop. Two of the three days will be used to conduct engaging activities that allow the teacher candidates to take a more involved approach to their PD. The third day will be a follow-up after the teacher candidates' field experiences. The Residency II teacher candidates will present their data findings to the whole group on the third day of the workshop.

The roles and responsibilities of the Residency II teacher candidates were to bring their prior knowledge and training on DDI to share with their colleagues. The teacher candidates were expected to actively participate in forming an action plan flow chart that

they can implement during their field experiences. The role and responsibility of the mentor teacher during the field experience was significant to ensure that the Residency II teacher candidate's project was successfully implemented and discussed. The Residency II teacher candidate can share their insight and knowledge about the collection of data and modifying instruction with the mentor teacher which in turn benefits both in their collaboration.

Potential Barriers and Solutions

The concern for conducting a workshop with the teacher candidates was the lack of time to devote to additional training. The workshop would be conducted by instructors who would have to devote time to plan and implement outside of their regular courses. The lack of additional funding for materials and workshop location would be a problem that could prevent the proposed workshop to actually take place. The teacher candidates are under a great deal of pressure to meet the required expectations of the edTPA assessment and would need some type of encouraging incentive to participate. These potential barriers would hinder any progress towards improving DDI skills during the field experience.

Some possible solutions for these potential barriers would be to integrate the training within a course. This would help avoid adding additional expectations on the teacher candidates' time. In addition, course instructors would not have to dedicate time for planning outside their regular course instruction. This course integration would curtail the cost of an additional facilty to hold the workshop.

Proposal for Implementation and Timetable

The implementation for this proposal should be conducted at least once during the teacher candidate's four year teacher training. Ideally, it would be beneficial for the college of education to utilize the assessment course to include the suggested training to ensure all candidates are appropriately trained. A required key assessment for each education course must align with required state and educational standards that would support the specific DDI implementation. The assessment course is offered prior to the teacher candidates' practicum field experience. This would be an ideal time to conduct the key assessment prior to the candidates actual student teaching experience. Teacher candidates would have then have the opportunity to practice the data skills again during the additional student teaching experience.

Roles and Responsibilities of Students and Others

The development and implementation of this recommended DDI workshop would be my responsibility. I have developed the research study with the support and approval of the dean and department chair. The stakeholders are invested in looking for opportunities to better improve their teacher training program using the data tools in a more efficient and effective manner. It is my goal to support the instructor for the assessment course by collaboratively organizing and analyzing the use of the edTPA and TEAM data to inform and modify instruction. These efforts to use data to modify instruction would benefit our students' knowledge and skills.

At this point in time, this effort would be conducted at a local university. After implementation of the DDI efforts, conference presentations may be conducted to share

with other universities. The goal is that not only the edTPA and TEAM assessment data is utilized to inform instruction, but that all assessment data was analyzed and organized in a manner that can influence course instruction to better prepare teacher candidtes.

Project Evaluation Plan

Overall Goals

The project evaluation plan will be to conduct formative assessments of the teacher candidates during the three days of the workshop. The formative assessment includes observations, questions, discussion, and exit slips, admit slips, graphic organizer, think-pair-share, and a visual presentation. The formative assessment using the visual presentation will include a rubric for the Residency II teacher candidates to know the required expectations. Also, a discussion will include the Residency II teacher candidates having a discussion with the mentor teacher about their data findings on a specific student's learning needs. The outcomes will involve the Residency II teacher candidates' in-depth experience in conducting DDI during their field experience. Meijs et al. (2016) emphasized how productive it was for teachers to learn from each other. The teacher candidates will give a visual presentation explaining the data collected, the analysis and steps taken to modify instruction to meet the student's learning needs.

Evaluation Goals

Implementation of Chaqmaqchee's (2015) formative approach, provided each teacher candidate an opportunity to conduct peer and online feedback using the college of education's Desire 2 Learn server for each presentation. Chaqmaqchee stated that the student-to-student interaction of participating, cooperating and observing helped build the

teacher candidate's confidence and enhanced their critical-thinking skills. The purpose of these various modes of formative assessments during the 3-day workshop was to support the Residency II teacher candidates' learning during their PD. The informal-formative assessments will allow for the teacher candidates' work to be checked and the direction of the workshop to be changed so that it provides meaning to the teacher candidates' learning. This type of assessments provides me the chance to give verbal feedback to the Residency II teacher candidates so that they reflect and interact meaningfully with colleagues and students. Formative assessment will be a way for me to model for the teacher candidates how to scaffold their understanding of DDI and differentiate the workshop. The overall goal will be to help Residency II teacher candidates to fulfill the edTPA Standard 3, Rubric 15, TEAM, and mentor standards. Also, this workshop helps the Residency II teacher candidates with writing their required edTPA lesson plans at the end of their field experiences. Once the teacher candidates have completed their presentations on the last day of the workshop, they will complete an exit survey about their participation in the PD workshop (Appendix I).

Key Stakeholders

The key stakeholders include the teacher candidates, mentors, professors, and the college of education program. The teacher candidates will be evaluated based on their abilities to implement DDI during their field experiences with their mentors. The mentors will benefit from the teacher candidates using data to modify instruction for one of the selected students. The goal for the mentor teacher is to self-reflect on how the mentee used data to modify instruction. The professors and college of education program

will delve deeper into using the edTPA and TEAM data to inform the course curriculum and instruction.

Project Implications

Social Change Implications

The project implications would impact social changes locally and state wide by training teacher candidates, mentors, and course instructors to value the importance of DDI. The impacts should result in all stakeholders using data to guide their instruction. According to Ezer and Ulukaya (2018), "measurement and evalutation help determine the readiness levels of the students and detect and eliminate the flaws in the curriculum" (p. 85). Currently, the edTPA and TEAM data that is collected on the teacher candidates was not used to inform the course instructors on the lower scored standards to modify their own instruction. Ezer and Ulukaya continued that the measurement-evaluation is vital to all learning in the education system. The mentors' evaluations have indicated low scores in the areas of DDI but have not demonstrated any self-reflection on how to address this area of concern with their teacher candidates. If the mentors and course instructors can model the use of data to inform instruction then the impact on teacher candidates might result in more confidence to use data to modify instruction.

Local Community

The implications for this workshop was that it offered an opportunity for the college of education to differentiate their program by supporting the Residency II teacher candidates in furthering their efforts to conduct DDI. This PD workshop encouraged the Residency II teacher candidates to learn collectively to enrich their field experiences.

The teacher candidates conducted a documented, in-depth discussion with the mentor teacher about data they collected and analyzed regarding the assigned student who needed modified instruction. Then the collected and analyzed data would be a part of the required Key Assessment that the teacher candidates would submit for course evaluation. Storey and Asadoorian (2014) continued to emphasize that education programs' impact was important to earning and building professional, organizational, and political credibility and support. The Residency II teacher candidate would be an instrument for building professional partnerships with the public schools.

Larger Context

All Tennessee colleges and universities were required to implement and meet the edTPA, TEAM and mentor rubrics within their college of education programs. The possible social change implications for this specific college of education at this university could involve the Residency II teacher candidates having a purposeful experience using DDI to meet the required expectations of the edTPA, TEAM and mentor rubrics. According to Storey and Asadoorian (2014), it was important that higher education benchmark the value and impact of their program by demonstrating that they can differentiate from other public institutions.

Storey and Asadoorian stated that state and federal stakeholders view American higher education as falling behind. Barlow (2015) goes on to state that the reforms of public education that began during the Bush era were now affecting higher education. Therefore, this PD project was an opportunity to be accountable in their measures of the education program. The importance of this project was that the local stakeholders would

be able to improve measurements of the Residency II teacher candidates' implementation of DDI during their field experiences. The impact of the project could result in a more informed communication between the stakeholders involved.

Conclusion

In summary, the implication of this project was to directly and purposely analyze and utilize data before the teacher candidate's field experience instead of relying solely on their field experience to implement DDI. Providing the teacher candidates, a workshop that promotes them as the experts on DDI empowers them to carry out the steps during their field experiences. The importance of the the teacher candidates were provided the necessary support benefitted their theories about the role of a teacher (Caulkin & Drinthaupt, 2017). The benefits of this project supported the higher education programs to analyze the collected edTPA, TEAM, and mentor data to improve and scaffold instruction in the classroom. This specific effort addressed DDI with the teacher candidates enhanced the operational process of higher education programs. Educators in higher education courses would have the chance to identify other measurements on the edTPA, TEAM, and mentor that can be utilized to modify their own instruction.

Section 4: Reflections and Conclusions

Project Strengths and Limitations

This section includes a discussion of the research strengths and recommendations for modification of the limitations as well as the scholarship components in this study. Information on the research development, evaluation, leadership and change, as well as, the potential impact on social change also are presented. Contemplating the idea for this 3-day project should not be necessary with the 4 years of vested education courses required of teacher candidates. The dilemma was that the teacher candidates were pushed to complee long lesson plans for a prescribed, fast-paced curriculum, limiting their opportunity to apply, analyze, and synthesize their experiences into meaningful practices. The low order of remembering and understanding the edTPA expectations had driven the teacher candidates' training to less qualitative results (Picower & Marshall, 2017).

With the 3-day PD, the plan was to support Residency II teacher candidates before their field experience with simplified training that encourages confidence in their DDI skills. Unfortunately, this project may only be a short-term solution to a long-term issue. It will not only be essential to achieve the required scores on the edTPA, TEAM, and mentor assessments, but the purpose of furthering teacher candidate training was to enhance their understanding of the importance of using data to modify their instruction. A valuable skill cannot be learned in a brief period but must be thoughtfully integrated into the college courses' curriculum during the 4 years of training.

One limitation of this specific project was that it required additional time that might not be available with an intensive and rigid calendar schedule. Since the focus was

entirely on completing the required expectations of the edTPA, the additional effort by instructor and students may be minimal. The U.S. Department of Education (2017) reported that most states and local school districts, encouraged by federal education initiatives, had been developed and implemented in new teacher evaluation systems that include multiple observation-based assessments of teacher practice. Based on this report, the national trends in appraising the effectiveness of teacher candidates were numerous, and one more workshop or training may not be well-received.

A limitation with any research project involving human subjects is that caveats to the results and interpretations in this study must be emphasized. Generalizations beyond the context of the specific educator preparation program for the target population of this study need to be tested with further investigations. While my informal conversations with faculty, master clinicians, and university supervisors at the college of education suggested that the sample population in this study was representative of teacher candidates over the past 4 years, any conclusions need to be restricted until further studies can be conducted. The relatively small sample size of one cohort of teacher candidates certainly limited extrapolation of the results.

Another potential shortcoming of the study involves the timing of the qualitative surveys. Administered at the end of the Residency II student teaching experience, some responses may have reflected simple fatigue and frustration that accompanied the challenges novice teachers faced. Nevertheless, despite these limitations, the findings of this study provided new insights into the mindsets of teacher candidates on DDI and resulted in important emergent questions for future research.

One contribution of this type of study was the exposure of underlying reasons behind the otherwise contextual data of edTPA, TEAM, and mentor scores. Admittedly, the cooperating college of education in this study could provide only speculation, but no evidentiary rationale for either low or high scores among their candidates. A strength of the line of open-ended, qualitative questioning I employed in this study was that it produced insights into the complexities of individual background proficiencies among candidates as well as the self-efficacies and diverse situational factors found across classroom environments. The strength of this study should dissuade researchers of teacher candidate effectiveness from relying solely on quantitative scores and including qualitative data to help identify areas for specific improvement in EPPs across the nation.

A workshop conducted on DDI during the Residency I teacher field experiences would benefit candidates by providing specific, clear steps to analyze assessment data, reflect on implications of the feedback, and design modification for improvement. Once the teacher candidates Residency I field experience was completed, they could present their findings to the other teacher candidates and course instructor for feedback. A rubric with detailed and specific qualitative feedback on areas of strengths and weaknesses could then be addressed. Submission of the key assessment for qualitative evaluation would provide the course instructor with insight as to modifications to instruction where needed.

Both the qualitative and quantitative data collected during this project suggested that candidates need additional, guided practice. A workshop with mentors directing candidates through specific actions with only three students should increase self-efficacy

for analyzing student feedback and modifying instruction during the subsequent Residency II student teaching experience. The collection of both quantitative and qualitative student data that was required of Residency I and II candidates should be modeled by their EPPs. Bush, Frank, and Dixon-Krauss (2014) stated that EPPs must go beyond state licensure exams and require detailed assessments of classroom artifacts from candidates in a way that models unit-level analyses and programmatic modification.

The main social change implication of this study for teacher candidates, course instructors, and mentors was an emphasis on the importantance of using data to modify instruction. High-stakes assessment has minimized internal assessments that evaluate instruction (CITE). In fact, Ezer and Ulukaya (2018) stated that the measurement-evaluation is vital to all learning at all levels in the education system. The result of all stakeholders modeling the use of data to guide their instruction emphasizes the importance of correlated external assessments with internal assessment and would provide a richer and more in-depth understanding of the use of data to identify inconsistent trainings (Ezer & Ulukaya, 2018).

Recommendations for Alternative Approaches

The analysis of of the edTPA and TEAM data provided me with the starting point for delving further into better understanding the teacher candidate survey responses about DDI. I created a data chart with categories of the candidates' responses to present to stakeholders at the appropriate time. Even though the Department of Teaching and Tearning course instructor for evaluation and assessment required candidates to work with three students for practice in DDI during their Residency I experience, the

candidates would develop more tailored strategies based on formative assessments and student feedback to help remediate low achievers, advance average achievers, and provide creative challenges for high achievers.

The open-ended, qualitative survey questions allowed me to more specifically clarify where candidates feel inadequate to implement DDI strategies. Based on the spring 2018 quantitative data from the edTPA, TEAM, and mentor scores, most Residency II teacher candidates met the requirements in DDI. The qualitative survey results indicated that candidates understood the theory behind DDI, while most expressed little confidence in their ability to follow through with implementation. Teacher candidates demonstrated an understanding of the edTPA Task 3, Standard 15 when they stated that DDI "focuses on individualizing instruction to meet the needs of every student." The teacher candidates also indicated that the student data helps them as teachers to "adjust and facilitate student growth." Some teacher candidates' limited and basic explanation of the edTPA Task 3, Standard 15 involved more of a focus on how the data were used to know "what questions were missed much" or that adjustments were made. These limited and basic explanations lacked academic language, such as scaffolding the student learning, differentiating, and modifying the instruction. No qualitative indicators from the national or local instruments provided insights on precisely where deficiencies exist or how to improve those deficiencies. Levy (2015) stated that qualitative data helps the researcher understand the learner's experience and perspective; therefore, the open responses of the candidates would suggest that improvements in the educator preparation program were needed, prior to the Residency II

student teaching experience, to provide detailed plans for instructional modification. Masood et al. (2016) highlighted the significance of teachers being engaged learners that practice strategies to further their skills.

My recommendation for alternative approaches to addressing the edTPA Task 3, Rubric 15 requirement is that it should involve a curriculum required key assessment modification. According to Zlatkin-Troitschanskaia et al. (2016), institutions of higher-education were deficient in the use of consistent and valid instruments to assess students' learning outcomes. Based on Zlatkin-Troitschanskaia et al., assessment of competencies in higher education formed the basis for clarity in the academic program. One suggested recommendation to address implementation problems in DDI would be to align the edTPA Task 3, Rubric 15 expectations with the key assessment that was submitted to the candidate's portfolio. The key assessment was a requirement in each of the EPP's courses to address the student learning outcomes for the course.

Another recommendation for the key assessment would be to include the implementation of Lange's (2014) *Six ways to Promote Data-Driven Instruction in K-12 Schools*. The teacher candidates would collect and analyze one elementary student's data during a learning segment. The teacher candidate would then propose instructional modifications to address the student's academic deficiencies.

Scholarship, Project Development and Evaluation, and Leadership and Change

I designed the procedures for this study to better understand the views of teacher candidates as they prepared for DDI. The data collection process initially appeared to be a linear task. Three instruments (i.e., edTPA, Ready to Teach, and TEAM evaluations)

were developed and in use with the target population. I made an assumption that these instruments were objective and yielded congruent results. Delving into the edTPA, mentor, and TEAM data, the potential influence from various extraneous variables became apparent. Variable classroom settings, different levels of support from mentor teachers, and ranging perceptions of teacher candidates from master clinicians and university supervisors were among the unpredictable aspects of the assessment process.

An important focal area of this study was the question of whether external quantitative scores from the edTPA, TEAM, and Ready to Teach instruments yielded specific information to properly guide modifications necessary to improve teacher candidates' DDI skills. The TEAM and mentor data aligned with the edTPA rubric and showed consistency in the determination of minimum benchmarks set for candidates. Unfortunately, the focus was solely on the strengths and deficiencies of the teacher candidates' skills and not on the effectiveness of the EPP to modify its approaches to DDI. However, since the quantitative data from these three assessment tools appear to satisfy the states' requirements, further data-mining for explanations appeared unnecessary by EPPs. Maintaining accountability of teacher candidate training must comply with no lower standard than that leading to a stellar program (Tadesse, Manathunga, & Gilles, 2018). Residency II teacher candidates indicated that they understood the meaning of the edTPA Task 3, Rubric 15 expectations but noted that their lack of training and experience hindered their confidence to implement DDI strategies during the student teaching field experience. Tadessea et al. (2018) stated that quantitative data measures trends rather than providing discernments into the quality of

various curricula. The quantitative scores of the edTPA, TEAM, and mentor satisfied state compliance and accountability requirements; however, these quantitative measurements did not provide an internal, feedback mechanism necessary to guide the EPP in the modification of the instruction in data assessment.

There is no clear construction of qualitative feedback on course instruction to identify discrepancies. The significant result of the teacher candidates scoring a "meets" the requirements appear acceptable. If valued feedback could be provided to higher education training programs, then modifications could be made to assist the teacher candidates in scoring higher in their assessments. The quantitative data measurements validate the external accountability but neglected the necessary steps for identifying modifications that involve faculty-driven, formative improvements.

Scholarship

The research experience was a learning curve for me. I had taught middle school science for over 15 years and treated the research like a science project incorporating the science methods to help me understand the process. However, the lengthiness of conducting a qualitative research experience left me less than hopeful about understanding and learning what it was truly like to conduct a research study. The research experience did help me to improve my reading skills by enquiring further into studies that helped me understand better the issues of concern surrounding the efforts to standardize teacher candidates' training. The biggest concern I encountered during this study was the stronghold that the edTPA lesson plan and assessment had on the teacher program. Research indicated that teacher education curricula focuses on accommodating

edTPA (Ledwell & Oyler, 2016) therefore the teacher candidates' pursuit of higher education was limited to the edTPA. Teacher candidates were regulated to literacy or math for their edTPA field experience. Instruction in social studies and science during the teacher candidates' residencies was not a part of the edTPA field experience and was of less importance to the process. The efforts to raise standards for professionalizing teacher education, unfortunately, narrows the curriculum and pedagogy rather than promote teacher autonomy (Clayton, 2018). Any attempt to integrate the social studies curriculum with literacy, math, and even science was of no significance if it did not help candidates complete and pass the edTPA lesson plans and assessment.

Other obstacles during this Residency I and II experiences were the attitudes of the candidates. The stress put on the candidates robbed them of their genuine purpose for wanting to be teachers. This negative mindset impacted the entire grouping of Residency I and II students. The learning environment was far from ideal for the teacher candidates' growth mindset. When these teacher candidates do enter the classroom as license educators, the concern was that their limited mindset focused only on their students passing the state and district standardized testing as was modeled for them.

Another obstacle that was of concern was the lack of diversity among the teacher candidate population who completed the edTPA, Residency I and Residency II courses, and field experiences. Based on Graham (2013), the United States licensure exams were racialized, and Kokka (2016) indicated that this was a cultural mismatch between a diverse student population. The population was mostly White, female students who had successfully moved forward in the program. The diversity of the population of

candidates who were not able to move forward struggle to want to continue because of the intensity of the teacher program. Therefore, three years of training preparation resulted in unlicensed candidates with significant student loans to pay off.

One of the many rubric expectations was the edTPA Rubric 2 and 3 requiring the teacher candidate to understand the knowledge of their students. A novel approach to address the knowledge of students' zone of proximal development (Vygotsky, 1962) was to integrate subjects and core concepts to give strength to meaning and purpose. Since the start of this research study there had been some changes in the state education requirements to integrate core subjects. This effort had caught some school districts and teachers off guard because of the lack of training. However, those few students who were enrolled in social studies and science during this study were lectured that integrating core subjects provides a rich, meaningful lesson that open the doors to making real-world connections.

Project Development and Evaluation

A core goal for me as an instructor was a fuller understanding of the purpose of the three different assessments of the teacher candidates in the teacher program. It was necessary to gain insight into the rigorous requirements that the teacher candidates must adhere to for certification. The project helped me to pinpoint themes for addressing the DDI training that involved the attention of instructors to modify their instruction. The purpose of EPPs should be the modeling of tasks that were expected of teacher candidates. Addressing curricular and instructional modifications based on candidate data and feedback must be as intrinsic to the faculty in teacher education programs as

those programs expect of K-12 teachers. The education program must likewise build in approaches to individualize instruction to meet the learning needs of their teacher candidates. Since state measures were summative and only provide generalized information on candidate proficiencies, instructional methods of EPP faculty must reflect differentiation that can be observed and discussed in plenary discourse among candidates with their instructors.

Adding a set of open-ended qualitative questions to the investigation was intended to explain the reasons for the scores on the traditional evaluation instruments. The administration of the qualitative survey questions occurred at the end of the student teaching experience at a time of exhaustion and perhaps some disillusionment among the beginner teacher candidates. Nevertheless, valuable responses from the Residency II teacher candidates provided insight to the concerns regarding their training and competency to implement DDI. These open-ended qualitative questions can be an effort to guide changes to specific program activities and outcomes directed to specific context actions (Tadesse et al., 2018). Tadesse et al. (2018) continued to indicate that externally driven, standardized quantitative measures were necessary for public communication.

Leadership and Change

The goal during this research study was to obtain a more organic, internal view about the quality of training in assessment. Patterns of discrepancies between the edTPA, TEAM, and Ready to Teach measurements was not evident as they each revealed mid-range scores. Therefore, it was beneficial for the Residency II teacher candidates to share perceived obstacles that prevented greater achievement on the edTPA scores. My

enriched experience as an education researcher provided insight into the purpose for state and college educational standards and expectations. It was understandable the necessity for the state and college to attempt standardized training and experiences for teacher candidates. Still, the quantitative numbers only provide the college with a shallow assessment of the teacher candidates' training process. Hebert (2016) stated that the edTPA and student teaching were not whole therefore undermining the time candidates need to prepare high-quality lessons. The daily developmental assessments that must be valued as well to understand the discrepancies that enhance and engage the teacher candidates.

Modification in training the teacher candidates must be an essential approach to supporting teacher candidates instead of solely relying on external validation to determine preparedness. Even though evidence indicates high scores among the teacher candidates, specific individual skills measured by the edTPA, TEAM, and mentor still need attention to ensure skills were not neglected.

Reflection on the Importance of the Work

The importance of the work in this research study was that teacher candidates were meeting the required edTPA and TEAM assessment scores but no evidence of implementation of the specific data collection and modification of instruction was evident during the field experience. The focus was then to determine what training could be implemented prior to the teacher candidates' field experience to ensure the DDI skills were carried out. The teacher candidates would benefit from an in-depth field experience that would build self-efficacy during their training experience.

In addition, the importance of this work included how the course instructor could modify their own instruction based on the data from the edTPA and TEAM instruments. The ability to model the required expectations of the teacher candidates would provide a better understanding of the DDI process. The mentor and mentee relationship during the field experience would promote discussions about the importance of data when addressing the diverse learning needs of the students.

In addition, one reflection regarding this work is that there is a lack of peer-reviewed documentation that validates the effectiveness of the edTPA instrument. Any positive research conducted on the edTPA was done so by Stanford who designed the instrument. The concerns about the edTPA stressed that standardized assessments used in education tend to be bias and limit a diverse population of teacher candidates from being successful in the program.

Implications, Applications, and Directions for Future Research

The direction for future research should explore approaches that are intrinsic to EPPs that enhance the quality of candidate training for DDI. These approaches should be assessed with multiple integrated measurements that guide a framework of explicit actions (Tadessa et al., 2018). The implications of this study for positive social change suggest the development of a more robust in-depth EPP program that distinguishes itself by identifying the variables influencing the edTPA, TEAM, and mentor scores and employs the same DDI strategies expected of the candidates. The theoretical framework comprising of evidence-based practices, permitted the teacher to monitor her students' performances, by using data to guide differentiated instruction decisions. A framework

of continuous formative assessment, modification of instruction, and communication between the master clinicians' evaluations and the supervisors' assessment curriculum was a suggested application of this study. These efforts facilitate the development of better-rounded, confident teacher candidates.

Implications

There were limitations and assumptions in this study that I recognized as possible restrictions to my research. One limitation involved the change in the course instructor that may have influenced the teacher candidates' training and survey results. The limited time frame for examining the level of assessment proficiency on the local and national assessments could have limited the research. The congruency of the edTPA, TEAM, and mentor teacher data analysis that ensured external requirements were being met by the teacher candidates varied in measurement. Hunt et al. (2016) indicated that observational data such as that collected by the edTPA, TEAM, and mentor assessments should not be used solely as a measure of quality teaching or efficacy along. These assessments were not adequate to stand alone as measurements of instructional quality. Marsh and Farrell (2015) stated that it was vital to support teachers with the framework to interpret and respond to data. Therefore, possible social change implications of this study would involve the teacher candidates having purposeful experiences that enriched their training.

Applications

The practical application for this research study was to determine if an improvement in qualitative assessment training would enrich the teacher candidates' quantitative assessment scores on the edTPA rubric. The significance of this specific

application was to expand the candidates' aptitude to analyze, interpret, present, and collect data analytically. Data collection and analysis should not be expected of teacher candidates without a useful model implemented in engaging EPP courses. Even though the edTPA and TEAM provided the quantitative measures, it did not offer the essential internal, qualitative feedback for the teacher candidates to make improvements. Therefore, the qualitative assessment survey results may have provided a further look at why the edTPA scores were average in meeting the required rubric score expectations. Based on Darling-Hammond et al. (2014) the critical thinking skills of teacher candidates must be career-ready to collect and analyze student' data. Furthermore, the application of valuable internal evaluations during the candidates' training could support their understanding of how to conduct formative assessments that include instructional modifications for their students.

Directions for Future Research

Focusing exclusively on quantitative data to determine the success of a program hinders genuine growth of the college of education program. Directions for future research should include an extended study of how including qualitative instruction and assessment could benefit the teacher candidates' quantitative assessment such as the edTPA assessment scores. Instead of a one-time snapshot of the teacher candidates' field experiences, the research could be a longitudinal study that would include a larger population of teacher candidates. The larger population would provide unique insight to the needs and experiences of the candidates' DDI skills. The open-ended survey questions were beneficial to better understand the candidates' confidence to implement

DDI during their field experience. To further this understanding, it would be ideal to expand an in-depth correlation between their training and actual field experience with their mentor teachers.

Hunt et al. (2016) indicated that observational data such as that collected by the edTPA, TEAM, and mentor assessments should not be used solely as a measure of quality teaching or efficacy along. These assessments were not adequate to stand alone as measurements of instructional quality. Data collection and analysis cannot be expected of teacher candidates without a useful model implemented in engaging EPP courses. Including the qualitative questions provided a crucial understanding of the diverse perspectives of candidates related to their scores on quantitative measurements. Tadessa et al (2018) emphasized that teacher candidates must implement the operations of the various theory concepts that they had learned, otherwise at the end of the course they will only be theorists.

Conclusion

The essence of the study was to test the usefulness of the edTPA, TEAM, and mentor data in assessing Residency II teacher candidates' abilities to implement DDI based on the three measurements identify the deficiencies of candidates but do not identify how those deficiencies can be addressed by EPP instructors using DDI themselves. The external instruments merely provide quantitative data to the public on how EPPs meet the state standards. The concern was that the external, quantitative scores do little to guide internal efforts for remediation. Modifying approaches in the EPP's assessment courses would likely promote opportunities for candidates to

experience a model where both quantitative and qualitative data was valued for decisions in DDI

Additional time was required to implement DDI in the classroom. The ability to scaffold student learning with differentiated instruction was increasingly time-consuming with larger class sizes. Lange (2016) suggested steps to conduct DDI could be implemented during the formative assessment, but most teachers were confronted with a prescribed, fast-paced curriculum that thwarts any real effort to modify instruction from student feedback. To compound the problem, teacher candidates seldom see DDI modeled by their EPPs. According to Donovan and Cannon (2018), the EPPs collaborative efforts to mentor the teacher candidates was dictated exclusively by the demands of the edTPA. In addition, Donovan and Cannon continued by accentuating the importance that teacher education programs remain diligent on common educational integrity and expanding current analytical pedagogies. Even though the edTPA was an attempt to bridge the achievement gap and improve teacher education, it was a standardized, performance-based assessment that restricts classroom time and effort devoted to authentic, real-time situations that can involve a more in-depth experience. The teaching training expertise had changed from complex and creative experience to a procedural process. Genuine, diverse understanding of the academic learning needs of the teacher candidates can build more confident teacher candidates to understand the significance of DDI.

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Appendix A: Professional Development Workshop Agenda

Timeline for a Three-day Workshop for Residency II Teacher Candidates
Data-Driven Instruction: DRIPs to DROPS

Day 1: Session I: What was your experience with data-driven instruction?
Morning Session:
8:00-8:15 Introduction

- **(Slides 1-4)** A PowerPoint titled: Data-Driven Instruction: DRIPs to DROPs will be showing while Residency II teacher candidates enter the College of Education lecture hall.
    - A quote by Allan Bloom (1987) will be on display as teacher candidates enter the room.
- An introduction slide of the workshop presenter's experiences and qualifications.
- Explanation of the objectives for the workshop-
    - Address the edTPA Standard 3, Rubric15-Modifying instruction based on data
    - Jason Lange's data-driven instruction conceptual framework
    - (DATA- **D**ata-driven instruction, **A**ssessment (formative), **T**eacher collects and analyzes, and **A**ddress instruction

8:16-8:45

- **(Slides 5-6)** edTPA rubric, TEAM rubric, and mentor data will be displayed on the PowerPoint so that Residency II teacher candidates can make observations of the data that measures data-driven instruction.
    - A brief description is provided to explain to the teacher candidates what they observed.
    - Residency II teacher candidates will be asked four questions about the data chart.
        - How do these three data tools (edTPA, TEAM and mentor) help you as a Residency II teacher candidate (student)?
        - Do you rely on one data set more than the other? Why?
        - Why is it necessary to use several tools of measurement to identify your ability to implement data-driven instruction?
        - If data helps inform you as a student (Residency II teacher candidate), then how can it help you as a teacher?
    - **(Slide 7)** Residency II teacher candidates will be guided in discussion about their observations of data-driven instruction during prior field experiences. Candidates will respond on dry erase board to the following questions (do not share your answers or talk).
        - 1. Do you as a teacher candidate understand how data-driven instruction is practiced? YES or NO

- 2. Do you feel adequately prepared to implement data-driven instruction during your Residency II field experience? YES or NO
- I will calculate the responses into percentages. Then display the responses.

8:46-9:00 (whole group-qualitative data)

- **(Slide 8)** Word Cloud (http://www.wordle.net/) was created by presenter and teacher candidates.
  - Create a word cloud of the whole group responses to the prior questions above.
  - To allow everyone to contribute I will ask each teacher candidate to write the words down on a dry erase board.
  - The word shared most often will show up bigger than other words.
  - Teacher candidates will observe the concern with implementing data-driven instruction

9:01-9:57 (whole group- quantitative data)

- **(Slide 9)** Residency II teacher candidates will use the Pollmaker application was taken on the use of data-driven instruction by ranking it a one, two, three, four, or five (Appendix E).
  - After the teacher candidates have completed the poll a graph was created by the Pollmaker application for the teacher candidates to make observations.
  - Write a conclusion based on data (whole group). Then write a hypothesis based on that conclusion. If _____, then_____.

9:58-10:04 BREAK

10:05-10:09

- **(Slide 10)** A video will be shown to the candidates: *How data helps teachers* (2014)
- Compare field experiences with video and rate their field experiences and observations of data-driven instruction as 0 (none), 1-2 (some), 3-4 (most of time), or 5> (all the time) submit to Pollmaker

10:10-11:44 (individual and small group tasks)

- **(Slide 11)** Residency II teacher candidates will be directed to enter a code for Kahoot app that will them to consider the benefits of data-driven instruction for classroom teachers.
- The Residency II teacher candidates were allotted three-minutes to individually respond to the prompt.
- Once students had completed their individual responses, the teacher candidates will use an adhesive to post to the large dry-erase board that had the words "Data-driven Instruction" already written on it.

- Next, a small group discussion (no more than 3-4) of the Residency II teacher candidates can share their responses with each other. (10 minutes)
    - The following questions will guide their small group discussion:
        - 1. Share one of your data-driven instruction field experiences.
        - 2. Share how the experience benefited your instruction.
        - 3. Share how the experience benefited your student(s).
- Come back together as a whole group to share experiences that were written on poster paper that were discussed in small groups. (<10 minutes)

11:45-11:55 Wrap-up: (10-15 minutes)

- **(Slide 12)** Residency II teacher candidates will individually write a summary on how data helps teachers.

LUNCH 11:56-12:30 (Residency II teacher candidates were provided a $5 voucher to use in the student center cafeteria, or other eating establishments within the student center)

*while students were at lunch, I read the Residency II teacher candidates summaries and look for common themes/wording so that I can discuss with teacher candidates when they return from lunch.

Day 1: Session 2: What to do with what you know about data-driven instruction
Afternoon Session:
12:45-1:45

- **(Slide 13)** The following words were written on poster signs and hung around the room: Strongly agree, agree, neutral, disagree, strongly disagree activity.
- Residency II teacher candidates had classroom data-driven scenarios read to them. The teacher candidates will go and stand by one of the signs that best describes their position about the scenario.
- A group discussion will take place after each scenario to determine why data-driven instruction was important to the teacher and/or student.

1:45-2:45

- **(Slide 14)** The Data-Driven Instruction PowerPoint will address Jason Lange's *Six ways to Promote Data-Driven Instruction in K-12 Schools* (2014). The whole group will discuss what each of these steps mean to them as a teacher:
    - Keep it simple
    - Think small
    - Analyze efforts
    - Engage students
    - Make progress visible and transparent
- **(Slide 15-16)** Watch video: *Show me the numbers: how we use data to inform instruction* (2010)
    - Data rich and information poor (DRIPs)
    - Data received and operationalized processed (DROPs)

- **(Slide 17)** Small groups will work on hypothetical student scenarios to fill out on a student dashboard form.
    - Complete dashboard
    - Instruction modifications based on data collected on student dashboard
    - Present findings

2:45-3:00

- **(Slide 18)** Wrap-up: List Lange's six steps on how teachers can implement data-driven instruction on note card.

Day 2: Session 3: How to assess and identify which strands or topics students struggle with or experience success.
Morning Session:
8:00-9:00

- **(Slide 19)** A share session on the Residency II teacher candidates' wrap-up responses from yesterday.
- The Data-Driven Instruction PowerPoint will display a concept map that outlines yesterday's activities and responses.
- A review over formative, summative and diagnostic assessment
    - Classify the following assessments as formative, summative, diagnostic (the scenario may include more than one assessment)
- Teacher candidates will pair-share responses.
    - Pair-share how each type of assessment can be used and how often in the classroom during their field experiences.

BREAK 9:01-9:15
9:16-11:15

- **(Slide 20-21)** I will show the teacher candidates an action plan flow chart that I created to give them a model to follow using Lange's six steps.
- Action plan flow chart includes the dashboard form, terms, concepts and definitions
- A rubric was provided listing the expectations for the action plan flow chart (Appendix I)
- Candidates will use their laptops (or desktop in the college of education computer lab)

11:16-12:00

- They can reference the following handouts to help guide them through the process.
    - Terms, concepts and definitions
    - Data-driven analysis conversations and data-focusing comments outlines
- A rubric listing the expectations for the action plan flow chart was provided to each Residency II teacher candidate
- Residency II teacher candidates can use their laptops to create a flow chart in Microsoft word document using SmartArt.

- Presenter will circulate around the room to check on teacher candidates work.
    - Students were dismissed for lunch when they had completed a rough draft outline of a flow chart
    - Additional time was given after lunch

LUNCH 12:01-12:30
Day 2: Session 4: How to assess and identify which strands or topics students struggle with or had success.
Afternoon session
12:31-2:00

- Residency II teacher candidates will complete their individual flow chart.
- Teacher candidates will then conduct a pair-share with one other colleague on what their plan was to address data-driven instruction during their field experience.
    - **(Slide 22)** During these pair-share students will ask each other the questions provided on the data-driven analysis form -making it actionable.
        - 1. What should student do when they hit this struggle next time?
        - 2. Where will you conduct your action plan in your upcoming lessons?
        - 3. Summarize your explicit, detailed action steps.
- After, this pair share will complete the teacher candidates will conduct another pair-share with another colleague conducting the same steps as they did in the prior pair-share.

2:01-3:00
Whole group will come back together for a discussion on the following information: The final PowerPoint Slide will include the following: (Slide 23-24)

- Residency II teacher candidates were required to email me (the presenter) their data-driven instruction flow chart that they will implement during their field experience.
- I will review the flow charts and make comments. Once the teacher candidates' action plan flow chart is approved, they will be asked to implement the action plan flow chart.
- Teacher candidates will be required to email their action plan flow chart for approval.
- A date for the third workshop session will be given with exact times, date and place.
- The third workshop session will be conducted at the end of the Residency II teacher candidates field experience.
- The teacher candidates will be expected to present their data-driven instruction plan that they implemented during their field experience in a PowerPoint format. The teacher candidates were directed to address at least one but no more than three of the students' academic learning needs. (All students' names were identified as Student A, B, or C). No names that identified students were permitted to maintain confidentiality.

- Residency II teacher candidates will be required to conference with their mentor teacher sharing their action plan flow chart and its application to working with one but no more than three of the students.
    - A signed note will document the meeting between Residency II teacher candidate and mentor teacher.

Day 3: Final Presentations (all day)
8:00-8:15
Bell-ringer:

- **(Slide 25)** Share one experience you had when conducting data-driven instruction

8:16-9:30: 1st session of teacher candidates' presentations

- Teacher candidates will conduct a peer and online assessment of each presentation
    - The online assessment was conducted on the university's D2L server

9:31-9:45: BREAK

9:46-11:00: 2nd session of teacher candidates' presentations

11:01-11:45: LUNCH

11:46-1:00: 3rd session of teacher candidates' presentations

1:01-2:30: Wrap-up:

- A survey of three questions:
- How did this professional development workshop help you with data-driven instruction?
- How did this professional development workshop help you with your edTPA lesson plan?
- How did this professional development workshop help you communicate with your mentor teacher and students?

Appendix B: Professional Development Workshop Timetable

Teacher Candidates' Handout

Professional Development Workshop Timetable
Teacher Candidates' Handout

*First two days of workshop are conducted prior to student-teaching field experience

Day 1: Session I: What was your experience with data-driven instruction?

Time	Description
8:00-8:15	Introduction to data-driven instruction: Jason Lange's DRIPs to DROPs conceptual framework
8:16-8:45	Presentation and discussion of edTPA and TEAM rubrics. Discussion on mentor evaluations
8:46-9:00	Present and discuss the concerns with implementing data-driven instruction
9:01-9:57	Candidates participate in poll by ranking the use of data-driven instruction during their field experiences (Appendix C: Pollmaker Statements)
9:58-10:04	BREAK
10:05-10:09	Watch video "How data helps teachers"
10:10-11:44	Small group tasks reflecting on the benefits of data-driven instruction
11:45-11:55	Wrap-up: candidates write summary on the benefits of data
11:56-12:30	LUNCH

Day 1: Session II: What to do with what you know about data-driven instruction

12:45-1:45	Group activity: Students take a stance on classroom data-driven instruction scenarios
1:45-2:45	Introduction to Jason Lange's *Six Ways to Promote Data-driven Instruction in K-12 Schools*. Whole group will discuss steps

	Watch video: *Show me the numbers: how we use data to inform instruction*
	Small group work
2:45-3:00	Wrap up: Jason Lange's steps on to implement data-driven instruction

Day 2: Session 3: How to assess and identify which strands or topics students struggle with or experience success.

Time	Description
8:00-9:00	Reflect on wrap-up responses from Day 1. Review of formative, summative and diagnostic assessment
9:01-9:15	BREAK
9:16-11:15	Discuss and design an action plan flow chart implementing Lange's six steps
11:16-12:00	Discuss terms, concepts and definitions
12:01-12:30	Lunch

Day 2: Session 4: How to assess and identify which strands or topics students struggle with or experience success.

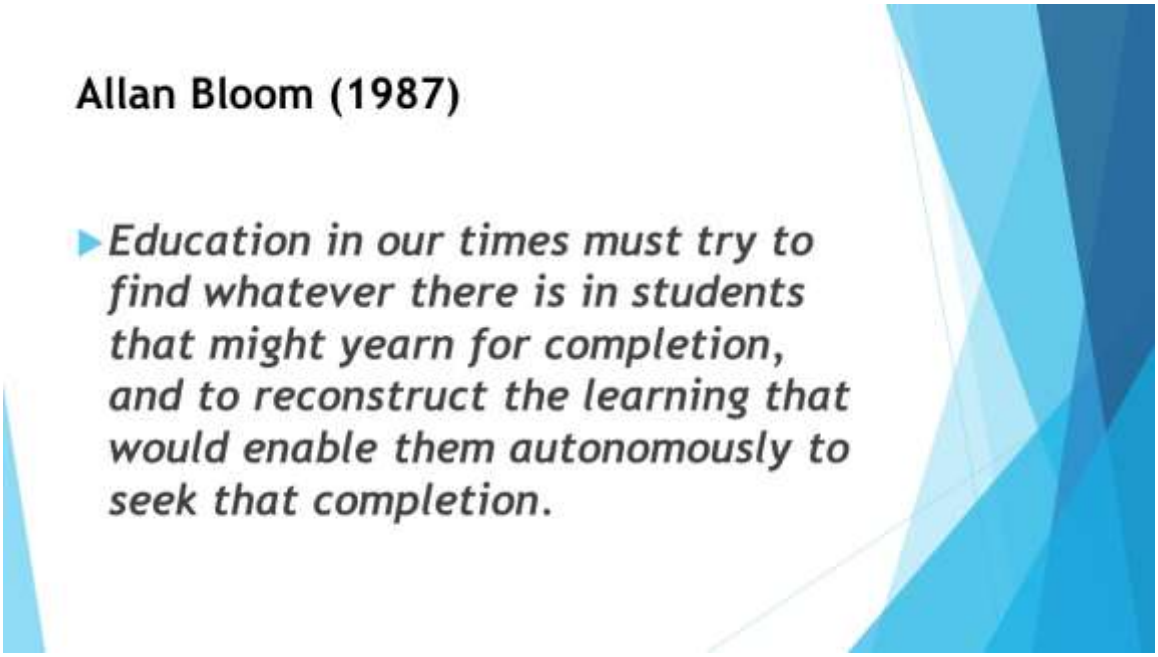
12:31-2:00	Pair-share on the candidates plan on addressing data-driven instruction during their field experience Respond and discuss questions on to make data-driven instruction actionable
2:01-3:00	Whole group discussion on the PowerPoint slides Wrap-up time

*Schedule a date and time to come back at end of student teaching field experience to complete Day 3 session

Day 3: Final Presentations by student teacher candidates (all day)

Time	Activity
8:00-8:15	Bell-ringer: Share experience you had with data-driven instruction during field experience
8:16: 9:30	1st session of teacher candidates' presentations
9:31-9:45	BREAK
9:46-11:00	2nd session of teacher candidates' presentations
11:01-11:45	LUNCH
11:46-1:00	3rd session of teacher candidates' presentations
1:01-2:30	Wrap-up: Questions, responses and discussions. Exit Survey: Appendix D

Appendix C: Data-Driven Instruction Project PowerPoint

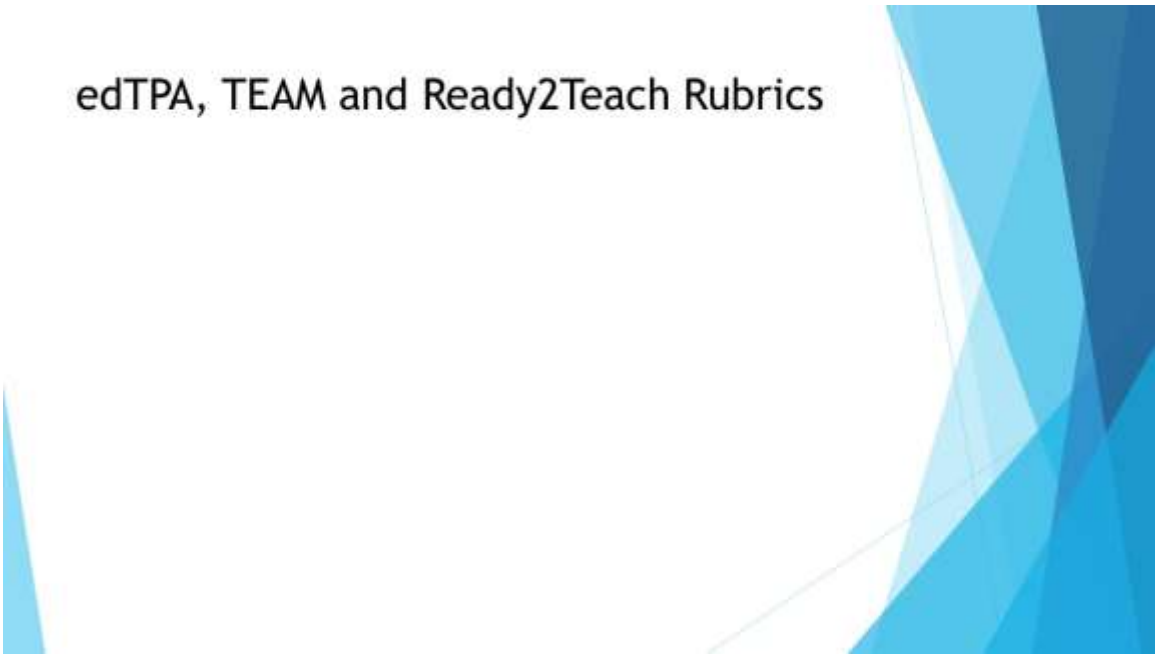


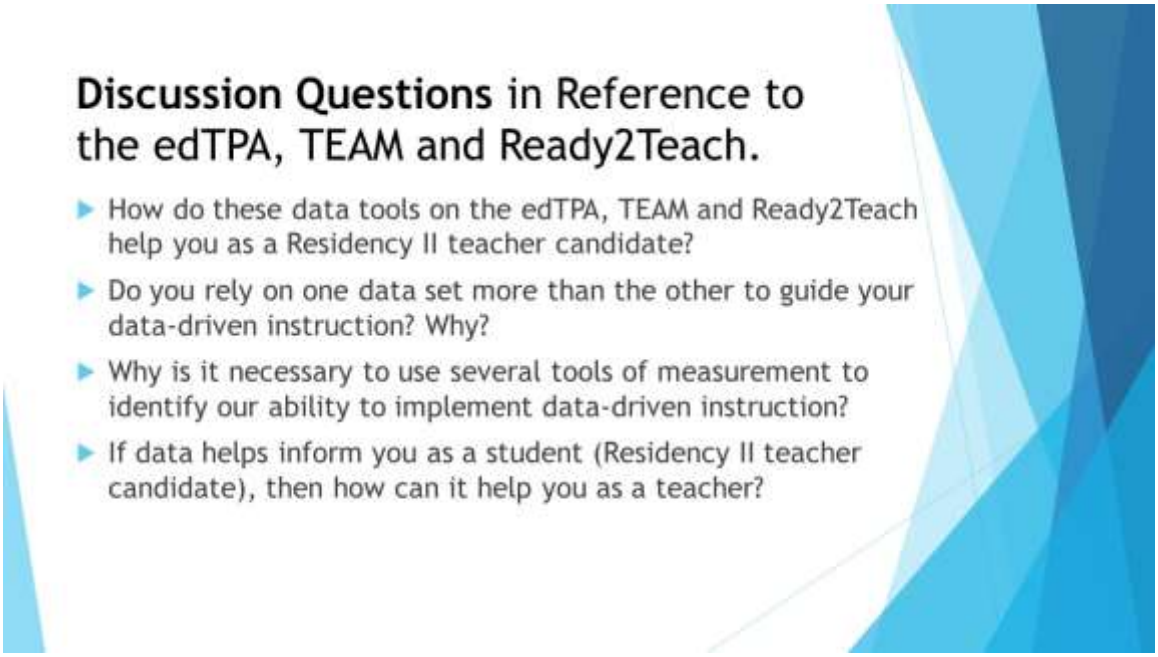
Donna Short
Educational Doctorate Candidate

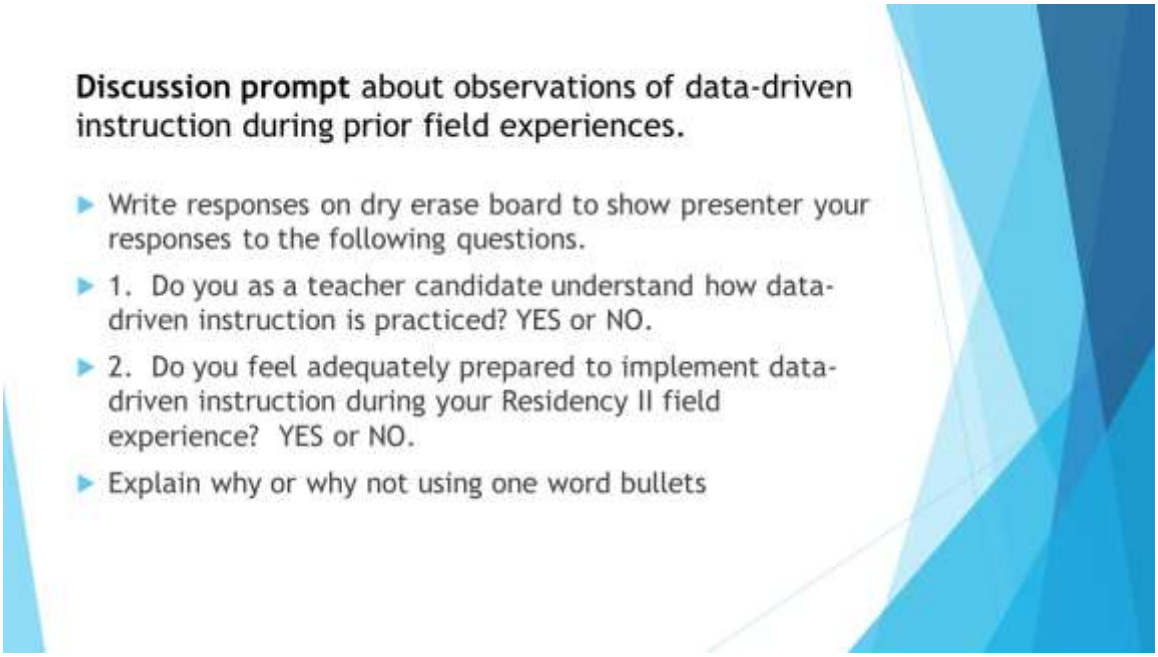
- Attended McKendree University for bachelor's of science degree in education
- Attended Walden University for master's degree in K-8 science education
- Currently attending Walden University for educational doctorate in curriculum, instruction and assessment
- Taught for 15 years middle school science grades 5th-8th grade
- Currently instructor for APSU in the department of teaching and learning

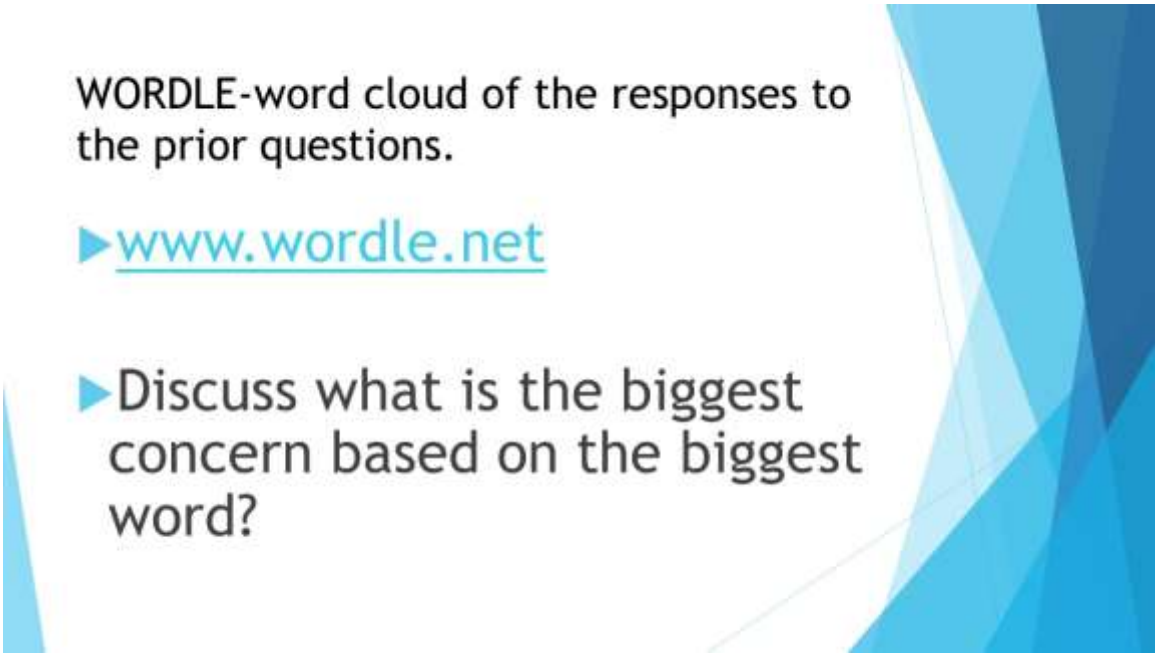
Day 1: Session 1:
Objectives:

- The objective for this Residency II teacher candidate professional development workshop is to address the edTPA Standard 3,Rubric 15-modifying instruction based on data.
- Implementation of Jason Lange's data-driven instruction conceptual framework
- Data-driven instruction
- Assessment (formative)
- Teacher collects and analyzes
- Address instruction


edTPA, TEAM and Ready2Teach Rubrics


Discussion Questions in Reference to the edTPA, TEAM and Ready2Teach.
How do these data tools on the edTPA, TEAM and Ready2Teach help you as a Residency II teacher candidate?
Do you rely on one data set more than the other to guide your data-driven instruction? Why?
Why is it necessary to use several tools of measurement to identify our ability to implement data-driven instruction?
If data helps inform you as a student (Residency II teacher candidate), then how can it help you as a teacher?


Discussion prompt about observations of data-driven instruction during prior field experiences.
Write responses on dry erase board to show presenter your responses to the following questions.
1. Do you as a teacher candidate understand how data-driven instruction is practiced? YES or NO.
2. Do you feel adequately prepared to implement data-driven instruction during your Residency II field experience? YES or NO.
Explain why or why not using one word bullets


WORDLE-word cloud of the responses to the prior questions.
www.wordle.net
Discuss what is the biggest concern based on the biggest word?

Pollmaker application for computers

- Respond to the following questions by ranking the questions with a one, two, three, four, our five using the handout provided (Appendix E).
- The Pollmaker will create a graph of the responses.
- Teacher candidates will make observations.
- Write a conclusion based on the data (whole group). Then write a hypothesis based on conclusion. If _____, then _____.

Video: How data helps teachers.

Prompt:
What are the benefits of data-driven instruction?

- Write on note card your responses (individual)
- Post benefits to large dry-erase or bulletin board with the words "Data-driven Instruction" already printed on board.
- Small group share responses
- The following questions will guide the small group discussion:
  - 1. Share one of your data-driven instruction field experiences.
  - 2. Share how the experience benefited your instruction.
  - 3. Share how the experience benefited your student(s).
- Come back together to discuss as whole group

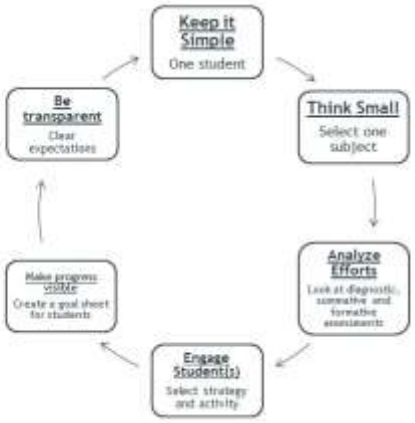
Wrap-up (AM session)

- Residency II teacher candidates will individually write a summary on how data helps teachers.

Day 1: Session 2:
What to do with what you know about data-driven instruction

- Group Activity:
  - Classroom data-driven scenarios read to Residency II teacher candidates. Teacher candidates move about the room to stand next to one of the posted signs that best describe their opinion:
  - Strongly agree, agree, neutral, disagree, strongly disagree
  - Group discussions will take place after each scenario

Jason Lange's Six Ways to Promote Data-Driven Instruction in K-12 Schools (2014)



Show me the numbers: how we use data to inform instruction (2010)

Show me the numbers….

- Data rich and information poor **(DRIPs)**
- Data received and operationalized processed **(DROPs)**
- **Discussion**

Small Group Work:

- Small groups will work on hypothetical student scenarios to fill out a student dashboard form
  - Complete dashboard
  - Instruction modifications based on data collected on students
  - Present Findings

Wrap-Up (PM Session)

- List Lange's six ways on how teachers can implement data-driven instruction using the provided note card.

Day 2: Session 3:

How to access and identify which strands or topics students struggle or succeed

- Review over Day 1
- A review over formative, summative and diagnostic assessment
  - Classify the following assessments as formative, summative, diagnostic (the scenario may include more than one assessment)
- Teacher candidates will pair-share responses.
  - Pair-share how each type of assessment can be used and how often in the classroom during their field experiences.
- Discussion

Action Plan Flow Chart

Rubric for Presentation (click on hyperlink)

Residency II Scoring Rubric for Oral Presentation

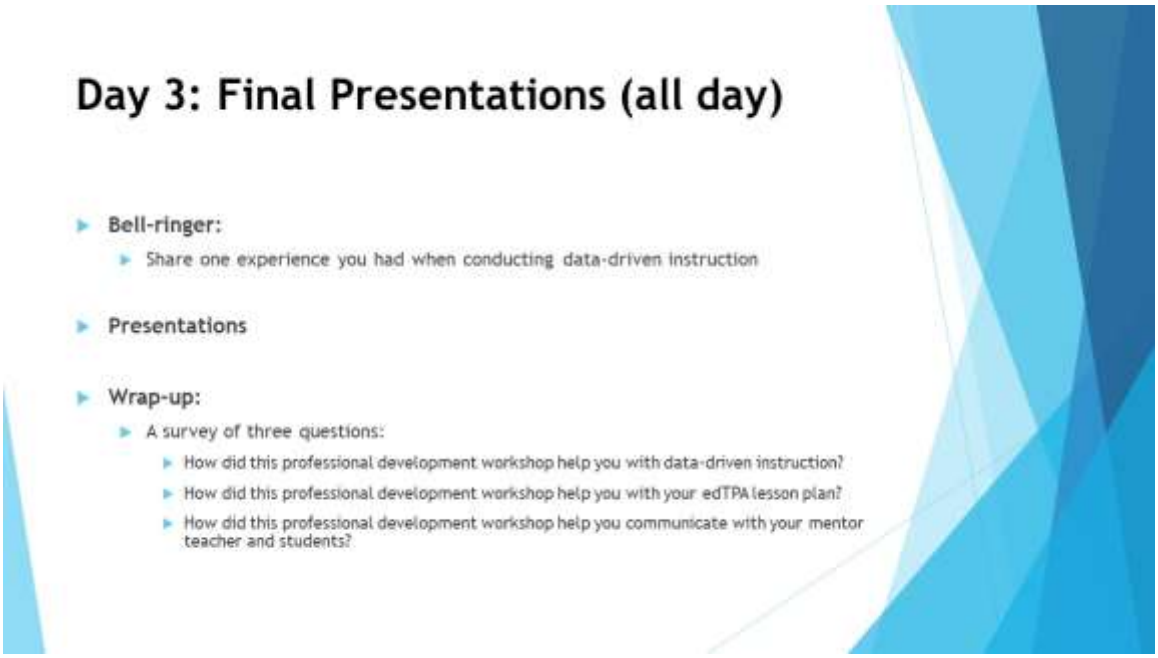
Pair-share action plan flow chart

- Discuss the following questions:
  - What should students do when they hit a struggle next time?
  - Where will you conduct your action plan in your upcoming lessons?
  - Summarize your explicit, detailed action steps.
- Conduct a 2nd pair share discussing the same questions.

- **Whole group will come back together for a discussion on the following information:**
- **The final PowerPoint Slide will include the following:**
- Residency II teacher candidates will be required to email me (the presenter) their data-driven instruction flow chart that they will implement during their field experience.
- I will review the flow charts and make comments. Once the teacher candidates' action plan flow chart has been approved, they will be asked to implement the action plan flow chart.
- Teacher candidates will be required to email their action plan flow chart for approval.
- A date for the third workshop session will be given with exact times, date and place.

Presentation Expectations

- The third workshop session will be conducted at the end of the Residency II teacher candidates field experience.
- The teacher candidates will be expected to present their data-driven instruction plan that they implemented during their field experience in a PowerPoint format. The teacher candidates will be directed to address at least one but no more than three of the students' academic learning needs. (All students' names will be identified as Student A, B, or C). No names will be permitted to maintain confidentiality.
- Residency II teacher candidates will be required to conference with their mentor teacher sharing their action plan flow chart and its application to working with one but no more than three of the students.
  - A signed note will document the meeting between Residency II teacher candidate and mentor teacher.
- Teacher candidates will conduct a peer and online assessment of each presentation
  - The online assessment will be conducted on the university's D2L server


Day 3: Final Presentations (all day)
Bell-ringer:
Share one experience you had when conducting data-driven instruction
Presentations
Wrap-up:
A survey of three questions:
How did this professional development workshop help you with data-driven instruction?
How did this professional development workshop help you with your edTPA lesson plan?
How did this professional development workshop help you communicate with your mentor teacher and students?


Thank you
Thank you for participating in the three day workshop on Data-driven instruction: DRIPs to DROPs
My contact information is donna.short2@waldenu.edu or donnashort63@gmail.com

Appendix D: Pollmaker Statements

Day 1: Session 1

Rank the following questions with:

1 Strongly disagree
2 Disagree
3 Neutral
4 Agree
5 Strongly agree

Statement/ Ranking	**1**	**2**	**3**	**4**	**5**
data-driven instruction begins with what students already know					
Data-driven instruction builds fluency-practice new skills					
Data-driven instruction uses visuals and graphic organizers to help students learn					
Data-driven instruction provides high levels of engagement in meaningful ways					
Data-driven instruction includes partner work and small-group work					

Appendix E: Exit Survey

Teacher Candidates' Exit Survey Completed after Workshop

Please use a checkmark to rate the following statements.

- The professional development workshop helped prepare me for data-driven instruction?

  5 Strongly Agree 4 Agree 3 Neutral 2 Disagree 1 Strongly Disagree

- The professional development workshop helped prepare me for writing the edTPA lesson plan.

  5 Strongly Agree 4 Agree 3 Neutral 2 Disagree 1 Strongly Disagree

- The professional development workshop helped you to better communicate with your mentor teacher and students.

  5 Strongly Agree 4 Agree 3 Neutral 2 Disagree 1 Strongly Disagree

- What improvements could be made to this workshop?

  _____

  _____

Appendix F: Qualitative Survey for Residency II Candidates

Describe your training experience in data-driven instruction

1. How was data-driven instruction necessary to guide classroom instruction?

2. How do you feel your training, to date, in assessment strategies prepares you to meet expectations of EDTPA Task 3, Rubric 15?

3. When planning for data collection, what intentional measures help maintain a focus on improving the students' progress in meeting learning targets?

4. In what way, do you think qualitative data on student performance guides instructors to improve individualized instruction?

5. In what way, do you think quantitative data on student performance helps validate qualitative observations and guide instruction?

6. At what point do you think trends in assessment data justify broader adjustments to the curriculum?

7. Describe how prepared you feel for developing evaluation criteria for learning segments in the classroom.

Appendix G: EDTPA Task 3: Rubric 15

Rubric 15: Using Assessment to Inform Instruction

How does the candidate use the analysis of what students do to plan next steps in instruction?

Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Next steps do not follow from the analysis. OR Next steps are not relevant to the standards and learning objectives assessed. OR Next steps are not described in sufficient detail to understand them.	Next steps are loosely related to providing support to develop competencies targeted in the psychomotor, cognitive, and/or affective learning domains	Next steps propose general support that improves competencies targeted in the learning segment in psychomotor, cognitive, and/or affective learning domains. Next steps are loosely connect with research and/or theory	Next steps provide targeted support to individuals OR groups to improve competencies targeted in the learning segment in the psychomotor, cognitive, and/or affective learning domains. Next steps are connected with research and/or theory	Next steps provide targeted support to individuals AND groups to improve competencies targeted in the learning segment in the psychomotor, cognitive, and/or affective learning domains. Next steps are justified with principles from research and/or theory

Appendix H: Tennessee Educator Acceleration Model

TEAM Rubric used by Master Clinicians, University Supervisors & Mentor Teachers

	Significantly Above Expectations (5)	**At Expectations (3)**	**Significantly Below Expectations (1)**
Standards and Objectives	• All learning objectives are clearly and explicitly communicated, connected to state standards and referenced throughout lesson. • Sub-objectives are aligned and logically sequenced to the lesson's major objective. • Learning objectives are: consistently connected to what students have previously learned, know from life experiences, and integrated with other disciplines. • Expectations for student performance are clear, demanding, and high. • There is evidence that most students demonstrate mastery of the daily objective that supports significant progress towards mastery of a standard.	• Most learning objectives are communicated, connected to state standards and referenced throughout lesson. • Sub-objectives are mostly aligned to the lesson's major objective. • Learning objectives are connected to what students have previously learned. • Expectations for student performance are clear. • There is evidence that most students demonstrate mastery of the daily objective that supports significant progress towards mastery of a standard	• Few learning objectives are communicated, connected to state standards and referenced throughout lesson. • Sub-objectives are inconsistently aligned to the lesson's major objective. • Learning objectives are rarely connected to what students have previously learned. • Expectations for student performance are vague. • There is evidence that few students demonstrate mastery of the daily objective that supports significant progress towards mastery of a standard.
COMMENTS			

Motivating Students	• The teacher consistently organizes the content so that it is personally meaningful and relevant to students. • The teacher consistently develops learning experiences where inquiry, curiosity, and exploration are valued. • The teacher regularly reinforces and rewards effort.	• The teacher sometimes organizes the content so that it is personally meaningful and relevant to students. • The teacher sometimes develops learning experiences where inquiry, curiosity, and exploration are valued. • The teacher sometimes reinforces and rewards effort.	• The teacher rarely organizes the content so that it is personally meaningful and relevant to students. • The teacher rarely develops learning experiences where inquiry, curiosity, and exploration are valued. • The teacher rarely reinforces and rewards effort.
COMMENTS			

Presenting Instructional Content	Presentation of content always includes: • visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson; • examples, illustrations, analogies, and labels for new concepts and ideas; • effective modeling of thinking process by the teacher and/or students guided by the teacher to demonstrate performance expectations; • concise communication; • logical sequencing and segmenting; • all essential information; • no irrelevant, confusing, or non-essential information.	Presentation of content most of the time includes: • visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson; • examples, illustrations, analogies, and labels for new concepts and ideas; • modeling by the teacher to demonstrate performance expectations; • concise communication; • logical sequencing and segmenting; • all essential information; • no irrelevant, confusing, or non-essential information.	Presentation of content rarely includes: • visuals that establish the purpose of the lesson, preview the organization of the lesson, and include internal summaries of the lesson; • examples, illustrations, analogies, and labels for new concepts and ideas; • modeling by the teacher to demonstrate performance expectations; • concise communication; • logical sequencing and segmenting; • all essential information; • no irrelevant, confusing, or non-essential information.
COMMENTS			

Lesson Structureand Pacing	• The lesson starts promptly.• The lesson's structure is coherent, with a beginning, middle, and end.• The lesson includes time for reflection.• Pacing is brisk and provides many opportunities for individual students who progress at different learning rates.• Routines for distributing materials are seamless.• No instructional time is lost during transitions.	• The lesson starts promptly.• The lesson's structure is coherent, with a beginning, middle, and end.• Pacing is appropriate and sometimes provides opportunities for students who progress at different learning rates.• Routines for distributing materials are efficient.• Little instructional time is lost during transitions.	• The lesson does not start promptly.• The lesson has a structure, but may be missing closure or introductory elements• Pacing is appropriate for less than half of the students and rarely provides opportunities for students who progress at different learning rates.• Routines for distributing materials are inefficient.• Considerable time is lost during transitions.
COMMENTS			

Activities and Materials	Activities and materials include all of the following: o support the lesson objectives; o are challenging; o sustain students' attention; o elicit a variety of thinking; o provide time for reflection; o are relevant to students' lives; o provide opportunities for student-to-student interaction; o induce student curiosity and	Activities and materials include most of the following: o support the lesson objectives; o are challenging; o sustain students' attention; o elicit a variety of thinking; o provide time for reflection; o are relevant to students' lives; o provide opportunities for student-to-student interaction; o induce student curiosity and	Activities and materials include few of the following: o support the lesson objectives; o are challenging; o sustain students' attention; o elicit a variety of thinking; o provide time for reflection; o are relevant to students' lives; o provide opportunities for student to student interaction; o induce student curiosity and

	suspense; ○ provide students with choices; ○ incorporate multimedia and technology; and ○ incorporate resources beyond the school curriculum texts (e.g., teacher-made materials, manipulatives, resources from museums, cultural centers, etc.). • In addition, sometimes activities are game-like, involve simulations, require creating products, and demand self-direction and self-monitoring. • The preponderance of activities demand complex thinking and analysis. • Texts and tasks are appropriately complex.	suspense; ○ provide students with choices; ○ incorporate multimedia and technology; and ○ incorporate resources beyond the school curriculum texts (e.g., teacher-made materials, manipulatives, resources from museums, cultural centers, etc.). • Texts and tasks are appropriately complex.	suspense; ○ provide students with choices; ○ incorporate multimedia and technology; and ○ incorporate resources beyond the school curriculum texts (e.g., teacher made materials, manipulatives, resources from museums, etc.).
COMMENTS			

Questioning	• Teacher questions are varied and high-quality, providing a balanced mix of question types:o knowledge and comprehension;o application and analysis; ando creation and evaluation.• Questions require students to regularly cite evidence throughout lesson.• Questions are consistently purposeful and coherent.• A high frequency of questions is asked.• Questions are consistently sequenced with attention to the instructional goals.• Questions regularly require active responses (e.g., and shared responses, or group and individual answers).• Wait time (3-5 seconds) is consistently provided.• The teacher calls on volunteers and non- volunteers, and a balance of students based on ability and sex.• Students generate questions that lead to further inquiry and self-directed learning.• Questions regularly assess and advance student understanding• When text is involved, majority of questions are text based	• Teacher questions are varied and high-quality providing for some, but not all, question types:o knowledge and comprehension;o application and analysis; ando creation and evaluation.• Questions usually require students to cite evidence• Questions are usually purposeful and coherent.• A moderate frequency of questions asked.• Questions are sometimes sequenced with attention to the instructional goals.• Questions sometimes require active responses (e.g., whole class signaling, choral responses, or group and individual answers).• Wait time is sometimes provided.• The teacher calls on volunteers and non- volunteers, and a balance of students based on ability and sex.• When text is involved, majority of questions are text based	• Teacher questions are inconsistent in quality and include few question types:o knowledge and comprehension;o application and analysis; ando creation and evaluation.• Questions are random and lack coherence.• A low frequency of questions is asked.• Questions are rarely sequenced with attention to the instructional goals.• Questions rarely require active responses (e.g., whole class signaling, choral responses, or group and individual answers).• Wait time is inconsistently provided.• The teacher mostly calls on volunteers and high-ability students.
COMMENTS			

Feedback	• Oral and written feedback is consistently academically focused, frequent, high-quality and references expectations • Feedback is frequently given during guided practice and homework review. • The teacher circulates to prompt student thinking, assess each student's progress, and provide individual feedback. • Feedback from students is regularly used to monitor and adjust instruction. • Teacher engages students in giving specific and high-quality feedback to one another.	• Oral and written feedback is mostly academically focused, frequent, and mostly high-quality. • Feedback is sometimes given during guided practice and homework review. • The teacher circulates during instructional activities to support engagement, and monitor student work. • Feedback from students is sometimes used to monitor and adjust instruction.	• The quality and timeliness of feedback is inconsistent. • Feedback is rarely given during guided practice and homework review. • The teacher circulates during instructional activities, but monitors mostly behavior. • Feedback from students is rarely used to monitor or adjust instruction.
COMMENTS			

Grouping Students	• The instructional grouping arrangements (either whole-class, small groups, pairs, individual; heterogeneous or homogenous ability) consistently maximize student understanding and learning efficiency.• All students in groups know their roles, responsibilities, and group work expectations.• All students participating in groups are held accountable for group work and individual work.• Instructional group composition is varied (e.g., race, gender, ability, and age) to best accomplish the goals of the lesson.• Instructional groups facilitate opportunities for students to set goals, reflect on, and evaluate their learning.	• The instructional grouping arrangements (either whole class, small groups, pairs, individual; heterogeneous or homogenous ability) adequately enhance student understanding and learning efficiency.• Most students in groups know their roles, responsibilities, and group work expectations.• Most students participating in groups are held accountable for group work and individual work.• Instructional group composition is varied (e.g., race, gender, ability, and age) to most of the time, accomplish the goals of the lesson.	• The instructional grouping arrangements (either whole-class, small groups, pairs, individual; heterogeneous or homogenous ability) inhibit student understanding and learning efficiency.• Few students in groups know their roles, responsibilities, and group work expectations.• Few students participating in groups are held accountable for group work and individual work.• Instructional group composition remains unchanged irrespective of the learning and instructional goals of a lesson.
COMMENTS			

Teacher Content Knowledge	• Teacher displays extensive content knowledge of all the subjects she or he teaches. • Teacher regularly implements a variety of subject- specific instructional strategies to enhance student content knowledge. • The teacher regularly highlights key concepts and ideas and uses them as bases to connect other powerful ideas. • Limited content is taught in sufficient depth to allow for the development of understanding.	• Teacher displays accurate content knowledge of all the subjects he or she teaches. • Teacher sometimes implements subject-specific instructional strategies to enhance student content knowledge. • The teacher sometimes highlights key concepts and ideas and uses them as bases to connect other powerful ideas.	• Teacher displays under-developed content knowledge in several subject areas. • Teacher rarely implements subject-specific instructional strategies to enhance student content knowledge. • Teacher does not understand key concepts and ideas in the discipline and therefore presents content in an unconnected way.
COMMENTS			

Teacher Knowledge of Students	• Teacher practices display understanding of each student's anticipated learning difficulties. • Teacher practices regularly incorporate student interests and cultural heritage. • Teacher regularly provides differentiated instructional methods and content to ensure children have the opportunity to master what is being taught.	• Teacher practices display understanding of some student anticipated learning difficulties. • Teacher practices sometimes incorporate student interests and cultural heritage. • Teacher sometimes provides differentiated instructional methods and content to ensure children have the opportunity to master what is being taught.	• Teacher practices demonstrate minimal knowledge of students anticipated learning difficulties. • Teacher practices rarely incorporate student interests or cultural heritage. • Teacher practices demonstrate little differentiation of instructional methods or content.
COMMENTS			

Problem-Solving	The teacher implements activities that teach and reinforce three or more of the following problem-solving types:• Abstraction• Categorization• Drawing Conclusions/Justifying Solutions• Predicting Outcomes• Observing and Experimenting• Improving Solutions• Identifying Relevant/Irrelevant Information• Generating Ideas• Creating and Designing	The teacher implements activities that teach two of the following problem-solving types:• Abstraction• Categorization• Drawing Conclusions/Justifying Solution• Predicting Outcomes• Observing and Experimenting• Improving Solutions• Identifying Relevant/Irrelevant Information• Generating Ideas• Creating and Designing	The teacher implements no activities that teach the following problem-solving types:• Abstraction• Categorization• Drawing Conclusions/Justifying Solution• Predicting Outcomes• Observing and Experimenting• Improving Solutions• Identifying Relevant/Irrelevant Information• Generating Ideas• Creating and Designing
COMMENTS			

Instructional Plans	Instructional plans include: • measurable and explicit goals aligned to state content standards; • activities, materials, and assessments that: o are aligned to state standards. o are sequenced from basic to complex. o build on prior student knowledge, are relevant to students' lives, and integrate other disciplines. o provide appropriate time for student work, student reflection, and lesson unit and closure; • evidence that plan is appropriate for the age, knowledge, and interests of all learners; and • evidence that the plan provides regular opportunities to accommodate individual student needs.	Instructional plans include: • goals aligned to state content standards; • activities, materials, and assessments that: o are aligned to state standards. o are sequenced from basic to complex. o build on prior student knowledge. o provide appropriate time for student work, and lesson and unit closure; • evidence that plan is appropriate for the age, knowledge, and interests of most learners; and • evidence that the plan provides some opportunities to accommodate individual student needs.	Instructional plans include: • few goals aligned to state content standards; • activities, materials, and assessments that: o are rarely aligned to state standards. o are rarely logically sequenced. o rarely build on prior student knowledge. o inconsistently provide time for student work, and lesson and unit closure; • little evidence that the plan provides some opportunities to accommodate individual student needs.
COMMENTS			

Student Work	Assignments require students to: • organize, interpret, analyze, synthesize, and evaluate information rather than reproduce it; • draw conclusions, make generalizations, and produce arguments that are supported through extended writing; and • connect what they are learning to experiences, observations, feelings, or situations significant in their daily lives both inside and outside of school.	Assignments require students to: • interpret information rather than reproduce it; • draw conclusions and support them through writing; and • connect what they are learning to prior learning and some life experiences.	Assignments require students to: • mostly reproduce information; • rarely draw conclusions and support them through writing; and • rarely connect what they are learning to prior learning or life experiences.
COMMENTS			

Assessment	Assessment Plans:• are aligned with state content standards;• have clear measurement criteria;• measure student performance in more than three ways (e.g., in the form of a project, experiment, presentation, essay, short answer, or multiple choice test);• require extended written tasks;• are portfolio-based with clear illustrations of student progress toward state content standards; and• include descriptions of how assessment results will be used to inform future instruction.	Assessment Plans:• are aligned with state content standards;• have measurement criteria;• measure student performance in more than two ways (e.g., in the form of a project, experiment, presentation, essay, short answer, or multiple-choice test);• require written tasks; and• include performance checks throughout the school year.	Assessment Plans:• are rarely aligned with state content standards;• have ambiguous measurement criteria;• measure student performance in less than two ways (e.g., in the form of a project, experiment, presentation, essay, short answer, or multiple-choice test); and• include performance checks, although the purpose of these checks is not clear.
COMMENTS			

Expectations	• Teacher sets high and demanding academic expectations for every student. • Teacher encourages students to learn from mistakes. • Teacher creates learning opportunities where all students can experience success. • Students take initiative and follow through with their own work. • Teacher optimizes instructional time, teaches more material, and demands better performance from every student.	• Teacher sets high and demanding academic expectations for every student. • Teacher encourages students to learn from mistakes. • Teacher creates learning opportunities where most students can experience success. • Students complete their work according to teacher expectations.	• Students are not well-behaved and are often off task. • Teacher establishes few rules for learning and behavior. • The teacher uses few techniques to maintain appropriate student behavior. • The teacher cannot distinguish between inconsequential behavior and inappropriate behavior. • Disruptions frequently interrupt instruction.
COMMENTS			

Managing Student Behavior	• Students are consistently well-behaved and on task. • Teacher and students establish clear rules for learning and behavior. • The teacher overlooks inconsequential behavior. • The teacher deals with students who have caused disruptions rather than the entire class. • The teacher attends to disruptions quickly and firmly.	• Students are mostly well-behaved and on task, some minor learning disruptions may occur. • Teacher establishes rules for learning and behavior. • The teacher uses some techniques, such as social approval, contingent activities, and consequences, to maintain appropriate student behavior. • The teacher overlooks some inconsequential behavior, but other times addresses it, stopping the lesson. • The teacher deals with students who have caused disruptions, yet sometimes he or she addresses the entire class.	• Students are not well-behaved and are often off task. • Teacher establishes few rules for learning and behavior. • The teacher uses few techniques to maintain appropriate student behavior. • The teacher cannot distinguish between inconsequential behavior and inappropriate behavior. • Disruptions frequently interrupt instruction.
COMMENTS			

RespectfulCulture	• Teacher-student interactions demonstrate caring and respect for one another.• Students exhibit caring and respect for one another.• Positive relationships and interdependence characterize the classroom.	• Teacher-student interactions are generally friendly, but may reflect occasional inconsistencies, favoritism, or disregard for students' cultures.• Students exhibit respect for the teacher and are generally polite to each other.• Teacher is sometimes receptive to the interests and opinions of students.	• Teacher-student interactions are sometimes authoritarian, negative, or inappropriate.• Students exhibit disrespect for the teacher.• Student interaction is characterized by conflict, sarcasm, or put-downs.• Teacher is not receptive to interests and opinions of students.
COMMENTS			