

NETWORK FOR EDUCATOR EFFECTIVENESS:
A CAUSAL COMPARATIVE STUDY

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NETWORK FOR EDUCATOR EFFECTIVENESS:
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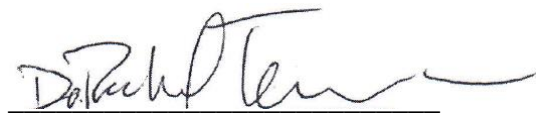
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NETWORK FOR EDUCATOR EFFECTIVENESS:
A CAUSAL COMPARATIVE STUDY

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By

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Katharine Hepburn once said, “It’s not what you do in life, it’s what you finish!” Martina Navratilova added, “But many people don’t even start. To me the only failure is when you don’t even try. So, set your path, be brave, do your best and smile.”

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ABSTRACT

This study was based on the idea that a collaborative, interactive system of evaluation would provide an opportunity for growth in the craft of teaching, resulting in a more effective teacher, which in turn might result in an increase in academic achievement. The independent variable was Missouri school districts that had implemented the Network for Educator Effectiveness (NEE) evaluation process and those that had not, while the dependent variable was the sum of third- to fifth-grade student percentages scoring in proficient and advanced in English Language Arts (ELA) and math. In order to compare differences, ex post facto Missouri Assessment Program (MAP) data were analyzed over a 4-year period of time. The research question that guided this study was: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2016-2019 as measured by the percentage of students achieving proficient and advanced? The data analyzed in this study were gathered from the Missouri Department of Elementary and Secondary Education's (MODESE) open access database. The use of the MODESE database as an instrument to analyze data was thorough as every public school student in Missouri was required to complete the MAP, according to grade-level requirements.

CHAPTER ONE

INTRODUCTION

Research supports a teacher evaluation system that includes comprehensive evaluations and meaningful feedback delivered by supportive instructional leaders (Hattie, 2016; Gerstein, 2014; Papay & Johnson, 2012; Steinberg & Sartain, 2015; Taylor & Tyler, 2012). From this perspective, teacher evaluation is seen as a form of professional growth in developing teacher effectiveness. Darling-Hammond (2013) contended that effective teacher evaluations are based on a “teaching and learning process that supports continuous improvement” (p. 3). Studies show that having a growth mindset, positive interpersonal relationship skills, self-efficacy, collaboration, reflective practices, strong classroom management, and effective feedback during the evaluation process contribute to professional learning of the teacher (Danielson & McGreal, 2000; Dolcemascolo et al., n.d.; Donohoo, 2017; Dweck, 2012; Gerstein, 2014; Hattie, 2016; Kellenberg et al., 2017). The purpose of this study was to determine if school districts employ a more reflective, collaborative evaluation system with multiple data points and feedback throughout the year, such as the Network for Educator Effectiveness (NEE) evaluation process, then the quality of teaching will improve and student achievement will reflect a level of improvement over time. The NEE was developed by the University of Missouri following the development of teacher evaluation standards by the state. The researcher analyzed Grades 3-5 student proficiency levels in both English Language Arts (ELA) and Math from the Missouri Assessment Program (MAP) in schools that used the NEE system and those that did not.

Teachers often employ a series of formative assessments to analyze whether students are learning. Student achievement that is gathered by schools, districts, states, and nations is a very different matter. One test given toward the end of the year provides a snapshot of student achievement in a highly monitored system of evaluation. Student data from the MAP test were used for this study, due to the accessibility of the data and the high level of reliability and validity associated with this testing system. A 4-year span of data was used to track student achievement over time. The ability to have students score in the advanced and proficient areas of the MAP is the desire of every teacher, yet it is difficult to find a straight line between classroom practices and student achievement. One way achievement is influenced, according to research, is the presence of effective teachers within the classroom (NEE, 2018).

Effective teachers are collaborators, and create networks of professional relationships that involve deep thought and ongoing interactions about the process of teaching and learning. The significance of this study was to determine whether there was a difference in student achievement between districts using the NEE evaluation process and those that did not. The overall question asked was what achievement results are found in school districts using the NEE evaluation process? Student achievement data provide a concrete measure of performance. This study provides results that will influence the evaluation process and foster discussion.

History of the Teacher Evaluation Process

In 1983, the state of Missouri, through Senate Bill 291, mandated that school districts were required to establish a performance-based, comprehensive educator evaluation system aligned with Missouri Legislature Statute 168.128 RSMo. In an

attempt to address the needs of students who were not performing adequately on standardized tests, the government made multiple attempts over the years to aid in educational reform. Attempts consisted of the 1975 Elementary and Secondary Education Act (ESEA), the 1983 *A Nation at Risk* Report, 1988 Education Reform Act, 1993 Outstanding Schools Act, 2001 No Child Left Behind, and the 2004 Individuals with Disabilities Education Improvement Act, all leading up to the 2009 American Recovery and Reinvestment Act (Missouri Department of Elementary and Secondary Education [MODESE], 2011).

Out of the 2009 American Recovery and Reinvestment Act, the United States Department of Education constructed the Race to the Top initiative. As a result of Race to the Top, Missouri chose, as one of nine components submitted with the ESEA Flexibility Waiver, to increase the amount of highly qualified educators through a more effective educator evaluation system (MODESE, 2011). The MODESE called on The Missouri Advisory Council of Certification for Educators (MACCE) to develop the Missouri Model Teacher and Leader Standards, which included standards and indicators for teacher evaluation. The mission of the educator evaluation team was to develop a system focused on improving the quality of teachers with the aspiration that student achievement would be positively impacted. The focus on improving the educator evaluation process correlates with the research that a critical predictor of student achievement is teacher quality (Clotfelter, Ladd, & Vigdor, 2007; Ladd & Sorensen, 2017; Nye, Konstantopoulos, & Hedges, 2004; Rice, 2013; Rivkin, Hanushek, & Kain, 2005). MODESE mandated that public school districts reestablish their educator performance-based standards and procedures based on updates to the newly developed model teacher

and leader standards. Evaluation team members believed that “evaluation processes are formative in nature and lead to continuous improvement, are aligned to standards that reflect excellence, build a culture of informing practice and promoting learning, and use multiple, balanced measurements that are fair and ethical” (MODESE, n.d.-e, p. 4). These standards correlate with the requirements set by MACCE.

The Missouri Model Teacher and Leader Standards determined a “professional continuum to illustrate how educators’ knowledge and skills mature and strengthen” (MODESE, 2011, p. 3). A framework of seven principles (Appendix A) was established, with each principle containing five criteria. As this process developed, educators in Missouri were given a chance to provide feedback on the development of the Teacher and Leader Standards, and MODESE gathered representation from around the state to pilot the evaluation system during the 2012-2013 school year. Over 100 districts and charter schools contributed to the review and revision of the Missouri Educator Evaluation requirements (MODESE, 2013b). In June 2011, Missouri’s State Board of Education approved the standards and indicators.

The evaluation team began by developing the Missouri Essential Principles of Effective Evaluation (Appendix A). The principles measure practice, give intensive support for probationary teachers, analyze student performance, highlight the importance of quality feedback, and apply the theories of constructivism, metacognition, and andragogy (Chick, n.d.; Flavell, 1979; Knowles, 1968, 1970, 1975, 1980; University City, 2017; Vygotsky, 1962, 2016). The Missouri Essential Principles of Education Evaluation were divided into three professional frames (Appendix B): Professional Commitment, Professional Practice, and Professional Impact. The Frame of Professional

Commitment deals with licensing, credentials, and certification processes. The Frame of Professional Practice deals with the processes of observations, including criteria to be noted by the administrator. The Frame of Professional Impact includes data collected on various aspects of student behavior and achievement (MODESE, n.d.-c, p. 1). For the purpose of this study the frames of Professional Practice (the evaluation process) and Professional Impact (student achievement) were the focus. The evaluation team then took the overarching Essential Principles of Effective Evaluation (Appendix A) and the Missouri Teacher Standards and Indicators (Appendix B) to provide more specificity through the creation of the Professional Frames of the Teacher, Teacher Growth Guides, and Possible Sources of Evidence (Appendix C).

MACCE members facilitated stakeholder discussion about how to measure and provide evidence of professional practice. A Teacher Growth Guide (Appendix C) continuum employing a sequence of improvement demonstrates how an educator's skills and knowledge develop over time. It is this continuum that administrators use to score the professional practice of educators. This completed the Missouri Educator Evaluation requirements for instructional and leadership accountability.

In February 2012, Missouri filed an application with the United States Department of Education for a waiver through ESSA that required implementation of Missouri Educator Evaluation by all districts, which would take effect during the 2012-2013 school year. The Regional Professional Development Center (RPDC) and MODESE disseminated information from Senate Bill 291 to Missouri districts. Districts were then given the autonomy to purchase an educator evaluation system or devise their own evaluation system aligned to Missouri Educator Evaluation Effective Principles

(Appendix A), Missouri Teacher Standards and Indicators (Appendix B), Professional Frames of the Teacher, Teacher Growth Guides, and Possible Sources of Evidence (Appendix C).

In order to meet federal mandates, districts, principals, and teachers collaboratively identified focus principles and indicators to be assessed, determined a baseline score for each identified indicator, developed an educator growth plan, regularly assessed progress and provided feedback, determined a follow-up score for each identified indicator, completed the final summative evaluation, reflected, and planned for continuous growth (MODESE, 2011).

Network for Educator Effectiveness

The NEE platform was developed by the University of Missouri in response to the federal and state mandates. The online platform utilized the work of multiple experts on professional development and assessment. A key component in the design of the NEE evaluation process was that it trains administrators on how to implement its system with fidelity. The training for every NEE evaluation process administrator takes place during a 3-day initial training and one day a year re-calibration training. At the end of the training, administrators complete an exam by conducting video observations of four classrooms that include a grade level and content area span. As administrators struggle, NEE trainers respond by providing focused professional development to guarantee the accuracy of teacher ratings on the rubric. This ensures fidelity of the NEE evaluation process. The NEE evaluation process rubric is constructed of specific descriptors where administrators rate each teacher practice separately according to anchor ratings (i.e., 0, 1, 3, 5, and 7). Another critical component of the NEE evaluation process is the online platform that

provides administrators immediate access to high-level professional development resources to aid in the development of teacher quality that are tied to 38 performance indicators.

Theoretical Framework

The theoretical framework of this study was based on the concepts of andragogy, constructivism, and metacognition. The research of Strahan (2013) stated that the effectiveness of the adult in the classroom, the teacher, is the single-most critical influence on student achievement. The influence of the adult ranks above socioeconomic status, race, home life, and parental involvement (Strahan, 2013).

The theory of andragogy is important because a teacher evaluation process must understand how to facilitate learning and growth in pedagogy in order to increase teacher quality and effectiveness. Andragogy, or the study of how adults learn, dates back, in published form, to 1833 in the book *Platon's Erziehungslehre* by Alexander Kapp. Andragogy views how adults process information they receive through vocational education, self-reflection, and life experiences (Kapp, 1833; Knowles, 1968, 1970, 1975, 1980). In 1925, Rosenstock-Huessy resurrected the theory of andragogy in Germany, and Lindeman (1926), after traveling to Germany, brought the concept home to the United States of America (USA). Lindeman is credited for building the foundation of andragogy in the USA. In 1964, Simpson paralleled the theory of how adults learn with existing research on how children learn. Simpson (1964) devised four main strands: "Principles of adult education, the study of adults, educational psychology of adults, and generalized andragogical methods for teaching adults" (Henschke, 2012, p. 3). Knowles (1968) is credited for conceptualizing and attaching his own meaning and philosophy to

andragogy. When implementing andragogy in his graduate courses at Boston University, Knowles “used the approach of group self-directed learning” (Henschke, 2012, p. 4). Knowles (1970) expanded his extensive knowledge in adult education by intensifying his work of andragogy. A guide on *Self-Directed Learning* was published by Knowles in 1975 and it was his adaptation to the theory of andragogy that was used in this study. It stated that andragogy was the philosophy behind the implementation of self-directed learning and included nine competencies, as follows.

1. An understanding of the differences in assumptions about learners and the skills required for learning under teacher-directed learning and self-directed learning, and the ability to explain these differences to others.
2. A concept of myself as being a non-dependent and a self-directing person.
3. The ability to relate to peers collaboratively, to see them as resources for diagnosing needs, planning my learning, and learning; and to give help to them and receive help from them.
4. The ability to diagnose my own learning needs realistically, with help from teachers and peers.
5. The ability to translate learning needs into learning objectives in a form that makes it possible for their accomplishment to be assessed.
6. The ability to relate to teachers as facilitators, helpers, or consultants, and to take the initiative in making use of their resources.
7. The ability to identify human and material resources appropriate to different kinds of learning objectives.
8. The ability to select effective strategies for making use of learning resources

and to perform these strategies skillfully and with initiative.

9. The ability to collect and validate evidence of the accomplishment of various kinds of learning objectives. (Knowles, 1975, p. 61)

Over a span of years, researchers continued to mold and develop what we know as andragogy today. Hadley (1975) developed the Education Orientation Questionnaire (EOQ) a 60-item instrument (30 andragogical / 30 pedagogical) to capture attitudes and beliefs on adult learning. Ingalls and Arceri (1972) furthered the notion of andragogy, applying it to the corporate setting by identifying how managers responsible for the professional development of employees should function according to nine dimensions. Ingalls and Arceri's nine dimensions are the following: respectful social climate; mistakes are seen as learning and growth opportunities; self-identified learning needs; learning through experiences; self-selected learning experiences; self-reflection of how staff members can improve; encouraging innovative ways of approaching tasks; developmental awareness of staff members; and, involving the staff in implementing problem-finding and problem-solving strategies (Ingalls & Arceri, 1972). Charters (1977) focused his work on the leader's competence and character. In 1980, Knowles published a revised version, *The Modern Practice of Adult Education*, adding a fifth assumption, that adults are intrinsically motivated more than extrinsically.

Related to the social aspect of andragogy, Lev Vygotsky (1962) pioneered the concept of social learning theory, or how the environment influences our learning through communicating and interacting with others. A school climate that includes rich discussion, collaboration, and feedback can enhance learning. This demonstrates the importance of being a coach, or facilitator of learning, where the adult learner is

encouraged to think and process rather than being given a directive (Hein, 1991; Rieger, 2017; Rowland, 2012). Vygotsky's social learning theory forms a foundation for the theory of constructivism. Constructivism occurs when individuals learn by constructing meaning from information they have received, independent of others, by putting together parts to make a whole, relating objects to each other, and creating a model of understanding. Learners perform their own mental activity in order to construct meaning. While individuals can construct meaning by individually reflecting on their own practice, the process of working with another person and receiving feedback can enhance the process of reflection and metacognition. While this theory is generally applied to student learning, the use of social learning theory in andragogy makes a clear application to adult learning (Vygotsky, 1962, 2016).

According to Flavell (1979), metacognition is defined as "thinking about thinking" (p. 906). Chick (n.d.) expanded the definition of metacognition as "the process used to plan, monitor, and assess one's understanding and performance" (p. 1). Rather than thinking about what is happening in the moment, metacognition involves thinking about what a person has experienced in a way that is thoughtful, deliberate, intentional, goal directed, and future oriented (Hacker, Dunlosky, & Graesser, 1998). As adult learners use metacognition, or reflect on experiences, they develop the capacity for self-direction, self-improvement, and self-efficacy. The classroom is a very active place and teachers are continually making quick decisions on a moment-by-moment basis in order to meet the needs of their students. It is not an environment that promotes reflective thinking; in fact, there are few places in the school setting where this reflective process naturally takes place. However, it is the process of evaluating, looking at classroom

observation data, that gives feedback to the teacher and provides a space for a deep level of metacognition. Through an evaluation system that honors the ways adults learn, provides social interaction that promotes increased cognitive awareness, and allows space and time for metacognition, teachers are able to work on their craftsmanship and ultimately become more effective in the classroom (Flavell, 1979; Hein, 1991; Rieger, 2017; Rowland, 2012).

The theories of andragogy, constructivism, and metacognition informed the study of the teacher evaluation process. Teacher efficacy and teacher effectiveness can be increased as the process of constructing knowledge about professional growth in the classroom becomes an active, collaborative process, rather than an administrative-driven event (MODESE, n.d.-a, n.d.-b, n.d.-d).

Statement of the Problem

This study sought to identify whether there was a difference in student achievement between Missouri districts that used the NEE evaluation process and those districts that did not. Neither a college degree nor years of service in the classroom automatically make a teacher effective. There is a need for teachers to reflect on their practice in order to become more effective in the classroom. When using the theory of andragogy to inform the practice of evaluations, principals are able to keep in mind the various aspects of adult learning theory while honoring experience, age, and background of the teacher. This allows a relationship of mutual trust to develop, which then positively affects the teacher's ability to manage, monitor, and modify behaviors that can lead to effectiveness in the classroom. The theory of constructivism allows a teacher to use data-driven feedback, presented throughout the evaluation process, which can promote the

development of more effective practice over time. Through reflecting on an evaluator's feedback during a coaching conversation, a teacher can think about why decisions are made about particular teaching practices and the metacognitive process can occur, providing an avenue for growth and change. The theories of andragogy, metacognition, and constructivism propose that teachers, who are adult learners, would benefit from processes within the school that emphasize conversation, feedback, and the development of self-directed goals, which promote self-efficacy, rather than a top-down, administrative-driven environment.

Although the Every Student Succeeds Act (ESSA, 2016) eradicated the notion that teacher evaluations be linked to student test scores, some states have continued to move in that direction (Felton, 2016; Loewus, 2017; Will, 2016). Additionally, state assessment scores are often utilized to judge the effectiveness of the teacher. It is not a surprise that student achievement scores on state assessments given one time a year can negatively impact morale among educators. This in turn can negatively impact the classroom (Paufler, 2018). In some states, teachers have even received sanctions or fines based on test scores. This issue has created cultures of intimidation and made it hard to retain qualified teachers. It was noted that teachers have become more concerned about the achievement of students within their own classroom rather than the students as a whole (Paufler, 2018).

Current gaps in educational research include the absence of studies at the elementary level, particularly studies in Missouri, and the emphasis on adult learning theory, constructivism, and metacognition critical to the educator evaluation process. limitations and delimitations of the study were identified. The NEE evaluation process

has been available to school districts for 5 years. While there are case studies of individual districts implementing the NEE evaluation process, there are few quantitative studies on this topic. This study compared the differences in student proficient and advanced percentages in third through fifth grades on the MAP in the areas of ELA and math during the years of 2016-2019, throughout Missouri in public school districts implementing the NEE evaluation process and those that did not.

Purpose of the Study

Raising student achievement scores is an ongoing goal throughout the state of Missouri. Following the federal emphasis on The Race to the Top, MACCE developed the Missouri Model Teacher and Leader Standards with a focus on improving the teacher, and teaching, within the walls of the classroom. A critical predictor of student achievement is teacher quality (Clotfelter et al., 2007; Ladd & Sorensen, 2017; Nye et al., 2004; Rice, 2013; Rivkin et al., 2005). The level of teacher quality can be improved through a process of thoughtful interaction about the teaching process. As principals increase the time spent in the classroom, there is an opportunity to have meaningful professional discussions about the pace of instruction, teaching strategies that are used, how decisions are made, and the level of interventions needed for particular students. The evaluation cycle is ongoing, and includes several observations throughout the year. The administrator is in a position to be a second pair of eyes in the classroom, and can provide data that help the teacher have a clearer picture of classroom practices. A well-constructed evaluation system could have an impact on teacher performance, which could result in improved student achievement. While the effect of the NEE evaluation process on student achievement cannot be determined, the increase of achievement by students in

districts using the NEE evaluation process provides data that are significant. The use of data collected from the past 4 years of ELA and math scores on the MAP test provide a concrete measure of student performance for this study.

In Missouri, districts were given autonomy of whether to develop their own evaluation process aligned with the requirements set by the standards, or purchase a prepackaged process (MODESE, 2011). The University of Missouri – College of Education units of the Heart of Missouri Regional Professional Development Center (RPDC) and ARC developed the NEE evaluation system in order to alleviate the burden placed on districts (University of Missouri, 2013). NEE was developed to meet the goals of aiding in teacher growth and facilitating a process for principals to identify strengths and growth opportunities. This study analyzed student achievement in ELA and math as performed during the 2016-2019 assessment periods between NEE districts and those that were not, in order to make application to the difference in student achievement.

Research Questions

RQ1: What is the difference between student achievement in English Language Arts (ELA) and math in Grades 3-5 as measured by the Missouri Assessment Program (MAP) between districts that used the Network for Educator Effectiveness (NEE) evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced?

RQ1 A - What is the difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 B - What is the difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 E - What is the difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ2: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation

process and those that did not for the years of 2016-2017 as measured by the percentage sum of students achieving proficient and advanced?

RQ2 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 C - What is the difference between student achievement in **ELA in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 D - What is the difference between student achievement in **math in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 E - What is the difference between student achievement in **ELA in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ3: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2017-2018 as measured by the percentage sum of students achieving proficient and advanced?

RQ3 A - What is the difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 B - What is the difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that do not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and

those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 E - What is the difference between student achievement in **ELA in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 F - What is the difference between student achievement in **math in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ4: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2018-2019 as measured by the percentage sum of students achieving proficient and advanced?

RQ4 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 E - What is the difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

Null Hypotheses

H₀1: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced.

H₀1 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 E - There is no statistical difference between student achievement **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀2: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2016-2017 as measured by the percentage of students achieving proficient and advanced.

H₀2 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀3: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2017-2018 as measured by the percentage of students achieving proficient and advanced.

H₀3 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₄: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2018-2019 as measured by the percentage of students achieving proficient and advanced.

H₀₄ A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀₄ B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

Significance of the Study

Following the federal emphasis on The Race to the Top, MACCE developed the Missouri Model Teacher and Leader Standards with a focus on improving the teacher, and teaching, within the walls of the classroom. A critical predictor of student achievement is teacher quality (Clotfelter, Ladd, & Vigdor, 2007; Ladd & Sorensen,

2015; Nye, Hedges, & Konstantopoulos, 2004; Rice 2003, 2013; Rivkin, Hanuschek, & Kain, 2005). It is the belief of the researcher that a well-constructed evaluation system could have an impact on teacher performance, resulting in improved student achievement. Districts were given autonomy of whether to develop their own evaluation process aligned with the requirements, or to purchase a prepackaged process like the NEE (DESE, 2011, 2013). This study analyzed student achievement in ELA and math as performed during the 2015-2018 assessment periods between NEE districts and those that are not.

Definition of Key Terms

Advanced. Students who demonstrate a complete level of comprehension on the MAP (MODESE, 2015).

Data points. Observations an administrator inputs into the computer in order to monitor the teaching taking place in the classroom (Stiggins, 1986).

Missouri Department of Elementary and Secondary Education (MODESE). A governing arm of the Missouri State Board of Education responsible for ensuring the success of the Missouri public school system (MO.gov, n.d.).

Effective feedback. A way to present insight in order to improve teacher performance (Hattie, 2015).

Missouri Assessment Program (MAP). A mandatory standardized assessment annually taken by students in third to eighth grades in the content areas of ELA, math, and science (Nicastro, 2014).

Missouri Educator Evaluation System. A framework of effective principles, standards, and indicators devised to assess the level of instruction taking place in

Missouri classrooms with the desire to develop educators in order to positively impact student achievement (MODESE, 2011).

Network of Educator Effectiveness (NEE). A platform developed by the University of Missouri utilized to house observation data overtime (NEE, 2018).

Proficient. Students who demonstrate a satisfactory level of comprehension on the MAP (MODESE, 2015).

Student achievement. For the purpose of this study student achievement is about a student's capacity to understand content enough to share their knowledge on a yearly assessment (Haines & Mueller, 2013).

Teacher effectiveness. In regards to this study teacher effectiveness means having a growth mindset, positive interpersonal relationship skills, self-efficacy, being welcoming to collaboration, and implementing self-reflective practices, strong classroom management skills, and feedback (Danielson & McGreal, 2000; Dolcemascolo et al., n.d.; Donohoo, 2017; Dweck, 2012; Hattie, 2016; Kellenberg et al., 2017).

Limitations

The limitations of this study were as follows:

- The research focused on data that had already been collected in the years 2016-2019.
- The reliability of the MAP scores as a yearly assessment for all students across the state.
- Whether the test environment was consistent throughout the state.

- The researcher had no control over test administration process and fidelity in districts.
- The researcher had no knowledge of the relationship between the evaluator and the teacher.

Delimitations

The delimitations of this study were as follows:

- The research focused on third- through fifth-grade students taking the MAP.
- The research focused on the sum of student achievement percentages in the levels of proficient and advanced on the MAP.
- MAP data were limited to 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years.
- The study took place in the state of Missouri.
- The research questions, the design of the study, and the theoretical underpinnings of andragogy, constructivism, and metacognition.

Assumptions

The research made the following assumptions:

- The NEE evaluation process was completed with fidelity at all participating Missouri districts.
- The MODESE open access database was up to date and accurate.

- The evaluation standards and practices were completed with fidelity at all non-NEE Missouri districts.

Design Controls

This quantitative causal comparative study attempted to identify whether there was a difference in student achievement in ELA and math in districts that had implemented the NEE process and those that had not. The levels of proficient and advanced achievement scores were chosen because they typically represent an acceptable standard of achievement. Grades 3-5 were chosen because students in those grades were the individuals that took the end-of-year test. The data for the study were available for the years of 2016-2019. While the NEE evaluation process began in 2015, there were no data available. Missouri was chosen for this study as the NEE evaluation process was developed in the state. The research questions, the design of the study, and the theoretical underpinning were developed by the researcher in order to accurately lead the study. The NEE evaluation process was studied because it represented a response to the dilemma of former ineffective evaluation processes.

MAP data were obtained from the MODESE open access database for every public school district in the state of Missouri. A list of public school districts in the state was also obtained from the MODESE open access database and a list of districts utilizing the NEE evaluation process was obtained from NEE. The researcher was a principal at the time of the study and bias was controlled in this study through the use of data from students who had already completed the MAP test. Since the data were housed within the MODESE open access database, this virtual repository became a part of the research setting. The state of Missouri partnered with the Northwest Evaluation Association

(NWEA, 2019) to develop a standardized test process that passed reliability and validity standards. This process maintained consistency in test administration as a method to protect the reliability and validity of the student achievement scores.

Summary

Chapter One introduced the basis for the study, including gaps in current literature, which included the absence of studies at the elementary level. While there are case studies of individual districts on this topic, there are few quantitative studies. Also presented were the limitations of previously collected data, reliability of the data, testing environment, and the relationship between the principal and teacher. Delimitations were that only grade-level data were analyzed, there was a focus on student achievement percentages only in the levels of proficient and advanced on the MAP, the study was conducted in the state of Missouri, the research questions, the design of the study, the theoretical underpinning and NEE districts and those that are not. Design controls were also included. The theories of andragogy provided the perspective of adult learning theory, the constructivist lens honored the continual growth of teachers as learner, and the theory of metacognition supports teacher reflection on the teaching-learning process. All of these theories contribute to the understanding of the growth and continual effectiveness of teachers. The subsequent chapter includes the review of literature and research related to educator evaluations. In Chapter Three, there is a synopsis of research findings and methodology used in conducting this study. Chapter Four presents the research outcomes, and the concluding chapter provides a summary of the research, the difference derived from this study according to practice, and recommendations for future research.

CHAPTER TWO

REVIEW OF LITERATURE

The teacher evaluation system is often seen as inequitable, ineffective, and inefficient, yet it impacts teacher quality, which has been shown to have the strongest strategic advantage on student achievement (LeFlock, Garcia, & Barbour, 2016; Mathis, 2013). There are many factors that influence the effectiveness of the evaluation process, some requiring managerial skills, such as evaluator qualification, timeliness of evaluations, and level of experience in specific content areas. Other factors are more focused on aspects of leadership, such as the relationship between the teacher and the evaluator, the subjectivity of the evaluator, the setting aside of personal biases and opinions, and the ability to support teacher efficacy and ownership of the evaluation process (Lipham, Rankin, & Hoeh, 1985; Moxley, 1978; Stiggins, 1986). While problems exist with the teacher evaluation system, the process of observing a teacher within the classroom setting and giving feedback to the teacher is an opportunity for personalized professional growth.

Theoretical Framework

Andragogy views how adults process information they receive through vocational education, self-reflection, and life experiences (Kapp, 1833). Andragogy (Knowles, 1968) was the philosophy behind the implementation of self-directed learning and included competencies of self-direction, collaboration, managing one's own learning, seeing teachers as facilitators, understanding learning objectives, the ability to access resources, and knowing when learning is mastered. This theory clearly puts the learner in the driver's seat and sees the teacher as a facilitator. In the context of teachers as learners

through the evaluation process, the collegial relationship is even more evident. Lev Vygotsky (1962) pioneered the concept of social learning theory, or how the environment influences our learning through communicating and interacting with others. This demonstrates the importance of a leader of teachers using a coaching process, or being a facilitator of learning, where the adult learner is encouraged to think and process rather than being given a directive (Hein, 1991; Rieger, 2017; Rowland, 2012). The third theory of metacognition plays an important role in the development of effective teachers (Flavell, 1979). As adult learners use metacognition, or use reflective practice on experiences, they develop the capacity for self-direction, self-improvement, and self-efficacy.

Teacher Evaluation

For more than a decade, the teacher evaluation process has been under major reform (Sparks, 2011). Former evaluation processes involved the administrator observing the teacher in a one-time formative classroom performance, followed by one face-to-face meeting, where the teacher typically read the comments made by the principal and signed the evaluation form. Toward the end of the year, a summative form was filled out by the administrator and, again, signed by the teacher. In this process, little ongoing interaction and feedback were given (Stiggins, 1986). Previous research on teacher evaluation showed inconsistencies in how the evaluation process was conducted, including the intensity of the evaluation, the professional support and development that was given, the components of the assessment instrument that were used, and evaluations based on student growth according to standardized tests. Some teachers even reported they completed their own evaluations (Benedict, Thomas, Kimerling, & Leko, 2013;

Dolcemascolo et al., n.d.; Zimmerman & Deckert-Pelton, 2003).

While goals were often defined for the teacher in the past, the current evaluation procedure has evolved into a process where evaluators take a more collaborative approach, and goals are set by both the administrator and teacher, with input given into a plan developed for the purpose of achieving higher levels of teacher efficacy and professional growth (Donohoo, 2017). The administrator serves as a data collector, giving mediative feedback to the teacher. Administrators are required to give multiple “data points” to teachers in a continuous process of monitoring, feedback, and teacher response (Hattie & Yates, 2014). Through the teacher evaluation process, administrators can make critical adjustments to the culture and climate of the school environment. Fullan, Rincon-Gallardo, and Hargreaves (2015) stated that as administrators mentor teachers, the organization will transform. Research (Fletcher, Strong, & Villar, 2004; Hargreaves & Shirley, 2009; Serpell & Bozeman, 1999) supports the notion that if an educator is an active participant in an intensive mentoring program that includes reflective practices, instruction will be positively impacted. In adult learning theory, the leader’s focus needs to be on helping teachers progress from one level of proficiency to another, in an ongoing process. As such, in working collaboratively during the evaluation process through reflective practices, teacher effectiveness of the pedagogy will continue to develop. Critical to the development of a strong professional culture is the notion that teachers have the perspective of the administrator as an instructional coach and that administrators view themselves as coaches and facilitators of others’ learning (Batista, 2015).

The level of support from administration impacts the rate and quality of teacher growth. Toch (2008) stated that principals need to utilize the teacher evaluation process

to motivate and improve instructional practice. Key researchers (Danielson & McGreal, 2000; Darling-Hammond, 2013; Silverberg & Jungwirth, 2014) have concurred that what is essential in teacher evaluations is “not the evaluation instrument, but the evaluation process, particularly the communication between the evaluator and the teacher that will determine whether or not evaluation supports growth and learning” (Dolcemascolo et al., n.d., p. 1). Therefore, the concept of evaluating teachers with multiple observations and regular feedback is essential in creating a comprehensive process that leads to teacher reflection and improved practice. While there is research on self-efficacy, feedback, and professional development that supports teacher growth, there is little research on how effective practice through the formal educator evaluation process influences teacher growth and development. Research shows the single most important factor in improving teacher quality is increasing the amount of effective feedback teachers receive (Danielson & McGreal, 2000; Hattie, 2016; Hattie, 2007; Hill & Grossman, 2013; Marzano, 2003). The evaluation process has been overlooked as a tool useful to teacher professional growth, and provides a prime opportunity to give effective feedback intended to improve teacher efficacy and performance, and thus, impact student achievement. Principals have the opportunity to meet each teacher at their level of proficiency and pedagogical practice, and facilitate growth and development. It is in the professional growth of the teacher that student achievement will be positively impacted.

Evaluation feedback. The impact of feedback during the evaluation cycle is a topic of interest to many educational researchers (Donohoo, 2017; Gates, 2009; Hattie, 2016; Rice, 2013). Some educators may receive a thank-you, or words of affirmation, which is inspirational, but the words may not move them forward professionally. *Detroit*

Free Press syndicated columnist Bob Talbert received a phone call from a colleague in the field who referred to him as his hero. Talbert was moved by the fact he was an inspiration to someone and referred to that feedback as, “the ultimate measure” (Talbert, 1996, p. 6c) of what he does for a living. Wiggins (2012) explained how the term *feedback* is used after completing a task to describe many different actions such as someone giving guidance, praise, or an evaluation. In essence, feedback in education is a measure to see how one is doing in regard to a goal and is intended to develop the skill sets educators need in order to positively impact student achievement. Numerous researchers have agreed the key ingredient causing learning and development skills to grow is feedback (Collins, 2001; Gagne, Yekovich, & Yekovich, 1993; “Insights,” 2009, 2015; Gruenert & Whitaker, 2015; Papay & Kraft, 2016; Papay, Taylor, Tyler, & Laski, 2016; Ronfeldt, Farmer, & McQueen, 2015). The feedback administrators provide employees should aid in that employee’s professional development and growth. Research shows that performance-based feedback is needed to increase implementation and helps preserve growth over time. Educators analyze and modify current behaviors to improve their performance. Administrators provide a way for teachers to access real-time data through observation and feedback of the teaching process. Ongoing professional development consists of giving feedback based on data from brief walk-through visits and classroom observations (Barton, Pribble, & Chen, 2013; Dowling, 2015; Wiggins, 2012; Wiliam, 2012). On-the-job training tailored to each individual should be context specific, comprehensive, occur regularly, and involve sessions where teachers receive coaching (Allen, Pianta, Gregory, Mikami, & Lun, 2011; Blazar & Kraft, 2015; Dowling, 2015; Papay & Kraft, 2016; Powell, Diamond, Burchinal, & Koehler, 2010; Wiggins,

2012). Benedict et al. (2013) shared when teachers accept feedback and take advantage of professional development opportunities the process can elevate them towards personal mastery. Feedback about the quality of instruction happening in the classroom, through the teacher evaluation process, can lead to effective professional growth (Papay & Kraft, 2016; Papay et al., 2016; Wiliam, 2012).

Kluger and DeNisi (1996) discovered the way recipients reacted to the feedback resulted in either a positive or negative outcome. Therefore, it is necessary to consider the reaction of the teacher when giving feedback. However, to not provide effective feedback to an employee is neglecting a strategy critical to improving performance. Wiliam (2012) discovered there are four ways an individual can respond to feedback. The individual can change to the desired behavior, amend the goal, desert the goal, or discard the feedback all together. According to Wiliam, predicting how an individual receives the feedback depends on the relationship between the individuals, how the feedback is given, and what the feedback includes.

An essential variable in order for evaluative feedback to move one forward is the level of self-efficacy of the teacher, or one's belief they can be successful at a certain task (Bandura, as cited in Johnson, Perlow, & Pieper, 1993). If a teacher's self-efficacy is high, teaching effectiveness will be at a higher level. Smither, Wohlers, and London (1995) found one's self-efficacy impacts a person's perception of feedback and determines whether feedback is interpreted the way it was intended. In order to develop self-efficacy, feedback cannot be delivered from a place of criticism and judgement (Wiliam, 2012). Couros' (2018) findings show that when giving feedback, an effective leader will have a supportive mindset and be willing to collaborate around a solution.

Without a collaborative nonthreatening relationship, feedback can be viewed as an attack, stifling the person's ability to make any changes (Kennedy, 2012).

The work of Tang, Baldwin, and Frost (1997) studied how a teacher's locus of control influences their receptivity to feedback in a situation. The locus of control indicates whether the teacher operates out of self-motivation or external motivation from the group. When an employee displays an external locus of control, they are more committed to the organization and positive feedback has a greater impact on teacher growth than negative feedback. They depend on outside feedback for their motivation. However, when an educator has an internal locus of control, their motivation comes from within themselves and positive or negative feedback does not impact the individual's commitment to the organization (Alders, 2000). This is a critical factor since in fact, Kluger and DeNisi (1996) found that the impact of feedback was influenced by the mindset of the teacher to such a degree that in 50 of the 131 studies, feedback actually resulted in lower performance. Thus, it is important to understand how feedback can be interpreted by teachers based on a teacher's mentality.

Researchers Pitler and Goodwin (2008) shared six questions principals should ask themselves when observing a teacher:

- 1) Are teachers using research-based teaching strategies?
- 2) Do student grouping patterns support learning?
- 3) Are teachers and students using technology to support student learning?
- 4) Do students understand their goals for learning?
- 5) Are students learning both basic and higher order levels of knowledge?
- 6) Do student achievement data correlate with walkthrough data? (p. 9).

When the principal is focused on set expectations and strategies, such as the

questions listed above, the effect of the feedback will be enhanced. If the administrator is not focused, or clear about expectations, the effect of the feedback will be lessened. By using specific strategies, the principal has the opportunity to “coach teachers to a higher level of performance” (Pitler & Goodwin, 2008, p. 11). By having frequent face-to-face growth conversations feedback can be more positively received because it is presented by someone with whom there is an established relationship (Clark, 1997; Ericsson, 1996; C.K. Jackson & Bruegmann, 2009; Papay & Kraft, 2016; Ronfeldt et al., 2015).

The success of an administrator depends on his or her level of effectiveness in engaging with teachers in a meaningful way. As well as having highly effective teachers, there is a need for administrators to be highly effective. Administrators that take on the role of an instructional leader act as guides toward not only teacher effectiveness, but whole-school effectiveness as well.

Instructional leadership. In the study, *Insights from Leaders* (2009), the author pointed out there are administrators with a manager-type mindset that make little or no instructional change in an organization. If an instructional leader can influence others through relationships and interpersonal skills rather than through positional authority, change is more likely to happen. In order to positively influence teachers’ pedagogical skills based on the theory of andragogy, a principal must facilitate a climate and culture built on trust, believe in open communication, provide constructive and appropriate feedback, promote professional development, believe evaluations should be collaborative, and view their role as an instructional coach through the evaluation process (Batista, 2015; Benedict et al., 2013; Couros, 2018; “Insights,” 2009, 2015; Kapp, 1833; Knowles, 1968, 1970, 1975, 1980).

Without purposeful leadership it is impossible to improve a school culture. When comparing the culture of a school to the climate of a school, there are differences to be noted. Culture evolves over time and stays consistent, whereas climate changes easily. Culture is the underlying personality of the group, can influence thinking, and is founded on beliefs and values. Climate is the attitude of the group, which develops a particular way of thinking, and influences the perceptions of the members. Simply stated, “Climate is around us, culture is part of us” (Gruenert & Whitaker, 2015, p. 17). Climate is what you do on a daily basis and culture is the reason why you do it. In order to improve the culture, an administrator must understand why behaviors are happening and facilitate an environment that collectively works toward behaviors that lead to student success. “Culture is both a survival mechanism and a framework for solving problems” (Gruenert & Whitaker, 2015, p. 4). A leader with a school culture considered as contrived-collegial will most likely be faced with opposition. Staff will feel the identity of the school is threatened, that the administrator is challenging their beliefs, causing teachers to be less supportive of changes and feel like concepts presented are superficial. It takes time for the seeds of cultural change to germinate. Once it begins with a few, other teachers will begin to emulate desired shifts.

According to the National Staff Development Council (NSDC), a coach does not have to know all the answers to build relationships and inspire others to reach their full potential. Coaching is the art of transforming an individual's current practice towards an identified opportunity for improvement at the exact time an individual needs the learner-driven support (NSDC, 2009). Coaching and mentoring can play a key role in the development of educators. Batista (2015) and Alsbury and Hackmann (2006) broke down

coaching to the communication strategies of asking, listening, and empathizing. By asking questions that are open-ended, teachers are able to reflect and verbally process their thoughts about teaching. After asking questions that promote thinking, the job of the coach, then, is to listen. When initiating the communication process by asking mediative questions and listening, the coach can and should demonstrate authentic empathy for the teacher's classroom situation, which allows coaches to develop connections and opens the door for productive conversations (Alsbury & Hackmann, 2006; Batista, 2015).

Batista emphasized that just because you empathize does not mean you do not hold people to high expectations. It is an expectation that teachers support and scaffold student learning and the principal is viewed as instructional leader of the teacher. Therefore, principals have a golden opportunity, while coaching throughout the evaluation process, to meet teachers where they are and scaffold them to where they need to go. Coaching often results in a more reflective environment regardless of the skill level of the teacher (NSDC, 2009). All educators desire to be successful, but not all educators are high in self-efficacy. The process of coaching can shift self-efficacy as the learner experiences successes due to changes made after going through the reflective process; positive changes to the beliefs and attitudes of reflective practitioners are found to occur in regard to the impact they can make in the lives of others (Guskey, 2000). Vital to mentoring are meaningful professional conversations around challenges faced while utilizing the strategy of reflective activities (Danielson, 1999). Job-embedded coaching allows for immediate application of the new learning. When coaching is embedded within the culture of the school, the way staff members interact is changed and relationships are based on a more professional, collaborative process (Hattie, 2015). Only 5% of learning

from traditional professional development is applied in the classroom, compared to 90% of learning being applied in the classroom due to the reflective practice of coaching. Job-embedded coaching allows for immediate application of the new learning (Joyce & Showers, 2002).

Teacher Effectiveness

The term *highly effective teacher* has been a part of the educational conversation for the past few years (Sanders & Horn, 1994). The research of Strahan (2013) presented that the effectiveness of the teacher in the classroom is the single-most critical influence on student achievement. The influence of the teacher ranks above socioeconomic status, race, home life, and parental involvement (Strahan, 2013). In synthesizing over 500,000 studies, Hattie and Jaeger (2003) found that what happens in the classroom has a positive impact on student achievement (Hattie, 2015, 2016). Out of the top 20 influences, 16 are influenced by the teacher. “We need to identify, esteem, and grow those who have powerful influences on student learning” (Hattie & Jaeger, 2003, p. 4). Hattie and Jaeger studied the attributes of the top-performing teachers in America. In other studies of these distinctive characteristics, Hattie (2016) and Marzano (2003) found the caliber of the classroom teacher is the greatest determinant on student achievement and should be the focus of attention. An effective teacher has a toolbox full of strategies for the purpose of guiding an instructional process that results in student learning. When preparing lessons, effective teachers take into consideration the students in their class. They develop an appropriate pace based on the content, determine the proper order in which to teach, and are skilled at presenting new information in various formats as they teach for mastery (Marzano, Marzano, & Pickering, 2003).

Marzano, Marzano, and Pickering (2003) asserted that there are two major factors influencing student achievement: the effectiveness of the school and the effectiveness of the classroom teacher. The importance of having a highly effective teacher in the classroom is highlighted by the 1994 research of Sanders and Horn. The 2-year study was reviewed by Marzano, Marzano, and Pickering in their 2003 book, *Classroom Management That Works: Research-Based Strategies for Every Teacher*. Marzano, Marzano, and Pickering shared the following findings: When comparing the effect of two factors of student achievement, the effectiveness of the school and the effectiveness of the teacher, Sanders and Horn's research showed that even if a school is believed to be ineffective, students in a classroom with a highly effective teacher showed an increase in achievement levels, producing more than an average amount of growth. Research in the area of teacher effectiveness supports the belief that it is vitally important to have highly effective teachers in every classroom (Danielson & McGreal, 2000; Dweck, 2012; Hattie 2016; Haycock, 1998; Marzano et al., 2003; Sanders & Horn, 1994; Sanders, Wright, & Horn, 1997; Zimmerman & Deckert-Pelton, 2003).

One of the assumptions the researchers challenged was that all mature teachers are excellent based solely on their experience rather than expertise (Hattie & Jaeger, 2003). "Expert teachers can identify essential representations of their subject, can guide learning through classroom interactions, monitor learning and provide feedback, attend to affective attributes, and can influence student outcomes" (Hattie & Jaeger, 2003, p. 5). Hattie and Jaeger (2003) identified five dominant qualities of a teacher who falls in the expert and experienced category. The study identified experienced, accomplished, and excellent teachers when comparing older, in contrast to newer, teachers. The five

dominant qualities lead to 16 essential facets of expertise, which show the difference between teachers who are experts versus those who have years of experience. Experts integrate new and prior knowledge to cross-curricular lessons. There is not a difference when comparing expert and experienced teacher groups when talking about knowledge around teaching strategies or curriculum content. The difference is in how they organize and use their knowledge of the content based on student needs and goals. Because of this, teachers who are considered experts instinctively relate to profound collections of principles, have with-it-ness about what is affecting the teaching and learning of a specific topic, adjusting accordingly, detect when more significance needs to be placed on key content, and design unique learning experiences to meet the needs of students. Expert teachers are masters of the ebb and flow of a lesson and understand how to problem-solve the reasons students are, or are not, successful (Hattie & Jaeger, 2003). Expert teachers are not afraid of students asking high-level questions and turn student errors into new learning opportunities. This information is critical when examining the practice of evaluating teachers; education is one of the few careers where teachers are rewarded primarily on experience rather than on proficiency (Hattie & Jaeger, 2003). Commitment, challenge, and expertise need to be honored.

It is the role of the principal as the instructional leader of the building to facilitate growth within the teacher under his or her supervision. The study of andragogy, or how adults learn, is a lens through which to view the development of teacher effectiveness (Knowles, 1968, 1970, 1975, 1980). According to this theory, in order to increase teacher effectiveness, major components of adult learning must be in place, particularly when discussing the ongoing teacher evaluation process (DuFour & Marzano, 2011; Rieger,

2017). These factors include promoting a growth mindset, promoting self-efficacy, implementing effective feedback, and encouraging self-reflective practices, all nested within the belief in the importance of a strong administrator-teacher relationship (Danielson & McGreal, 2000; Dolcemascolo et al., n.d.; Dweck, 2012; Hattie, 2016; Hattie, 2007; Rieger, 2017).

Mindset theory. As previously stated, andragogy is the study of how adults learn. A critical component of both adult and student learning is mindset theory, where the emphasis is placed on having a growth mindset. Dr. Carol Dweck's mindset theory came about from decades of research on why some people persevere and seek challenges, while others avoid challenges and concede defeat easily (DeWitt, 2015; Dweck, 2012; Gerstein, 2014; Schraer, 2014; Young, 2019). A mindset is defined as the established set of attitudes held by someone. A fixed mindset occurs when an individual believes their intellectual level and cognitive abilities are innate or fixed. A growth mindset occurs when an individual believes their intellectual level and cognitive abilities are changeable and they tend to take on challenges and view mistakes as part of the learning process. For example, a teacher who has a growth mindset can develop teacher agency by trying differentiated instructional strategies, which results in more active student participation (Gerstein, 2014). The mindset of the teacher influences the mindset of the student. DeWitt (2015) referred to the fixed mindset of adults toward student growth as a "self-fulfilling prophecy" (para. 8). When adults have a fixed mindset, students are influenced toward that same mindset. If we do not think a child can do better or achieve more, that child will often meet our expectations. Numerous studies have taken place over the years around teacher mindset, including the study of the Pygmalion Effect. What a teacher

believes about the level of achievement ability of students affects the expectations they have for those students. If they believe a student has the capacity to grow, they tend to put more effort into that student (Brophy, 1983; Brophy & Good, 1970; DeWitt, 2015; Hattie, 2016; Kanter, 2006; Rosenthal & Babad, 1985; Rosenthal & Jacobson, 1968; Weinstein, 2002; Young, 2019). Dweck (2012) shared that simply telling students to try harder does not promote a growth mindset and teachers need to intentionally instruct students how to develop their brains, and to give praise to them while they are trying new strategies. Most importantly, teachers need to personally model a growth mindset (DeWitt, 2015; Dweck, 2012; Schraer, 2014). Modeling a growth mindset can positively impact student learning, which in turn will elevate student achievement (Hattie & Yates, 2014; DeWitt, 2015). DeWitt (2015) shared strategies to aid adults in making a cultural shift towards a growth mindset environment, such as less testing, more feedback, flexible grouping, different types of questioning, and less direct instruction (DeWitt, 2015; Hattie & Yates, 2014). Opposite of the Pygmalion Effect is the Golem Effect. Brophy (1983) explained low expectations produce negative behaviors, causing teachers to provide less time for student responses and allowing students to get away with answers that are incorrect (Brophy, 1983; Donohoo, 2017). This is also known as defensive pessimism in the field of psychology. If expectations are lowered, there is no need to feel like we have failed the student who does not achieve at high levels (Donohoo, 2017; Kanter, 2006). Through intentionally emphasizing aspects of behavioral sciences, principals can guide teachers toward a more open attitude about growth mindset (Cossairt, Hall, & Hopkins, 1973).

Thinking that someone is a potential high performer encourages leaders and

colleagues to look more closely at her, to invest more time, to pass on more tips, to find the positives that surely must be there and mention them, ignoring the negatives because surely they cannot be true. (Kanter, 2006, p. 40)

However, mindset theory is only one way of looking at how to develop teachers. With the intense focus on Carol Dweck's mindset theory, education systems could be labeling teachers inaccurately. It is important to have a broad and open view about teacher growth that includes developing competencies in the areas of effective feedback and self-reflective practices that lead to self and collective efficacy (Danielson & McGreal, 2000; Dolcemascolo et al., n.d.; Dweck, 2012; Hattie, 2016; Kellenberg et al., 2017; O'Brien, 2015).

Efficacy. Bandura (1977) defined self-efficacy as “the conviction that one can successfully execute the behavior required to produce outcomes” (p. 193). Protheroe (2008) defined teacher efficacy as “a teacher’s sense of competence—not some objective measure of actual competence” (p. 43). By analyzing perceptions, a teacher forms the belief that he or she facilitates a classroom environment where learning takes place. Whether a teacher is efficacious or inefficacious attributes to their belief they have what it takes to meet student needs. An efficacious teacher takes responsibility for students succeeding in his or her class. An inefficacious teacher uses external factors as an excuse for lack of student success (Bandura, 1977; Donohoo, 2017; Georgiou, Christou, Stavrinides, & Panaoura, 2002). With a stronger degree of self-efficacy teachers are willing to try new strategies and approaches, create challenging goals, and develop more instructional opportunities designed around mastery, which in turn increases a student’s self-efficacy (Allinder, 1994; Ross & Bruce, 2007; Ross & Gray, 2006; Tschannen-

Moran & Barr, 2004). Hattie (2015) shared that the expectations a teacher sets for a student has a 0.43 effect size, demonstrating it is highly influential. However, a student's expectations on their own performance has a greater influence. In the teaching behaviors of expectations and self-efficacy, "students who are taught by teachers with a low sense of self-efficacy have lowered performance expectations" (Tschannen-Moran & Barr, 2004, p. 196). A lack of teacher efficacy consequently weakens a student's efficacy (Bandura, 1986).

Hattie's (2016) research on effect size of teacher behavior on student achievement shows collective teacher efficacy as the single most important factor determining whether students will achieve. Collective efficacy outranks a child's home life, whether their parents are involved in school, their socioeconomic status, and even if they previously achieved at high levels (Hattie, 2016). "Among the types of thoughts that affect action, none is more central or pervasive than people's judgments of their capabilities to deal effectively with different realities" (Bandura, 1986, p. 21). Studies about persistence and greater effort define descriptors of teams that possess collective efficacy, such as persistent, resilient, capable, undertake challenges, and are influential. Noted in the work of Ross and Bruce (2007), "teacher efficacy influences student achievement through teacher persistence" (p. 51) and those with self-efficacy "view students' failure as an incentive for greater teacher effort" (p. 51). Teams of teachers with collective efficacy are persistent and put forth high levels of effort on a consistent basis and continue to pursue success even when difficulties arise (Goddard, Hoy, & Woolfolk Hoy, 2000). Based on this information, it is critical that schools develop and foster the collective efficacy of teachers as a way to improve a school (Donohoo, 2017). Sorlie and Torsheim (2011)

noted a highly efficacious staff is “more likely to generate socially well-adapted students and to prevent and handle antisocial and rule-breaking behavior in more effective ways than a school staffs with low confidence in their mutual capacity” (p. 187). High collective efficacy reduces the amount of stress teachers face due to student misbehavior, increasing job satisfaction (Klassen, 2010). Teachers feel more confident in their abilities to positively influence behaviors. A key factor in the success of a teacher is their level of commitment. Committed staff members are willing to put in extra effort for the greater good of the organization (Donohoo, 2017; Klassen, 2010). If teachers perceive all staff members are capable, share the same thoughts, are persistent, and put in the same amount of effort, the group will achieve more than a group of individuals who are not collectively efficacious (Goddard et al., 2000). The data collected by Ramos, Silva, Pontes, Fernandez, and Nina (2014) during the years of 2000-2013 noted that the more elevated the belief in collective efficacy of the teaching staff, the less negative impact socioeconomic status had on student achievement. Goddard, Hoy, and Woolfolk Hoy (2004) stated when referring to collective efficacy, it is “the judgments of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students” (p. 4). All faculty need to believe they have the power to get students to learn at the level of mastery and that they can instill in children the belief that they can do well in school and are able to foster a sense of creativity in students (Donohoo, 2017). Efficacious teams motivate, promote learning, and create an environment where students engage in productive behaviors.

Teaching behaviors productive to positive learning environments include “(a) putting forth greater effort and persistence, especially aimed toward students

experiencing difficulty; (b) trying new teaching approaches based on effective pedagogy; (c) conveying high expectations to students (teacher expectations); (d) fostering learner autonomy (student-centered teaching); (e) decreasing disruptive behavior; (f) increased commitment; and (g) enhanced parental involvement.”

(Donohoo, 2017, pp. 13-14)

Efficacy beliefs guide the behaviors and actions taken by educators and aid in how they react to challenges and spend their time. Without collective efficacy educators will take the easier path versus the road less traveled. However, educators can be inspired to develop a sense of efficacy about positively impacting student achievement. In order to influence one’s mindset, it is critical we understand how to form collective efficacy beliefs (Donohoo, 2017). The shaping of collective efficacy is based on the cognitive processing of events, the interpretation of the events, and the assessment of how the team completes tasks with competency. A significant contributor to collective efficacy beliefs is causal attributions (Bandura, 1986). Bandura (as cited in Donohoo, 2017) stated, “Four sources shaping collective efficacy beliefs include mastery experiences, vicarious experiences, social persuasion, and affective states” (p. 8). Mastery experiences are the most powerful ways to develop collective efficacy. Teams that experience success, or mastery, collectively believe their performance can be repeated if they attribute it to what they can control. Vicarious experiences instill the belief that because someone else was successful, my team can too reach success. Social persuasion is the third source of efficacy. When teams observe other credible and trusted groups overcome obstacles, they can be persuaded as long as they are collaborative, cooperative, and cohesive by nature. The final source of efficacy is affective state, which is defined as the organization's

emotional tone (Donohoo, 2017; Tschannen-Moran & Barr, 2004) that looks at how teachers within the organization respond to challenges, and whether or not they feel competent and capable (Goddard et al., 2004).

By having high efficacy, educators believe they have the power to influence and positively impact student achievement. Highly efficacious teachers set high expectations, are willing to try new strategies, are persistent, welcome parent involvement, and have a laser-like focus on students who are not achieving. Also, educators with collective efficacy are able to instill in children that they can be successful in school. If they believe they can, they will.

Student achievement. There are multiple ways researchers define student achievement. Some researchers say that it is about developing cognitive skills that lead towards learning goals (Guskey, 2013) while others note that achievement is about a student's capacity to understand content enough to share their knowledge (Haines & Mueller, 2013). Another definition of achievement includes personal growth in soft skills, student engagement, and student satisfaction (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006). Regardless of the definition, society tends to measure student achievement based on a level of mastery of content areas, such as ELA, math, science, and social studies, scored on a yearly standardized assessment (Ballafkin & Van Middelkoop, 2019). Although the ESSA (2016), eradicated the notion that teacher evaluations be linked to student test scores, some states have continued to move in that direction (Felton, 2016; Loewus, 2017; Will, 2016). Additionally, state assessment scores are often utilized to judge the effectiveness of the teacher. It is not a surprise that student achievement scores on state assessments given one time a year can negatively impact morale among

educators. This in turn can negatively impact the classroom (Paufler, 2018). In some states, teachers have even received sanctions or fines based on test scores. This issue has created cultures of intimidation and made it hard to retain qualified teachers. It was noted that teachers have become more concerned about the achievement of students within their own classroom rather than the students as a whole (Paufler, 2018).

Standards are created in each state that guide districts in the scope of the content to be mastered. However, the question must be asked whether or not the external testing companies have correlated the test to the grade-level learning standards. As a result, it is widely acknowledged that teachers should not allow the test to drive the content that is being taught (Phelps, 2016). The research results of Jennings and Bearak (2014) established “that students performed better on items testing frequently assessed standards in both ELA and math—standards that composed a larger fraction of the state test in prior years—suggesting that state test results may have overstated students’ mastery of the state standards the tests are meant to assess” (p. 386). Scores do not always adequately reveal student learning in meeting the objective. The stakes are high due to the fact that educational policy relies heavily on state assessment results.

In relation to federal mandates and an increase in standardized testing, educators are under immense pressure to continuously improve student achievement. While standardized tests measure content areas, there are many additional areas that the classroom teacher is responsible for teaching. The need to prepare students for the 21st century is accompanied by developing the skills of collaboration, communication, creativity, cultural awareness, digital citizenship, digital literacy, critical thinking, and socioemotional development, and are all components educators must focus on for a

student to be well-rounded and achieve in today's society (Tharamuraj, Krishnan, & Perumal, 2018). However, these soft skills, so necessary in the real world, are not assessed at the state level. A great emphasis has been placed on getting students connected in a meaningful way and in an area of interest where students understand the relevance of learning to their lives and in turn will be motivated to increasingly engage in lifelong learning (Burgess & Houf, 2017). As students are engaged, their efficacy builds, which aids in developing the whole child (Griffith & Slade, 2018). "Under the current system, many teachers face performance targets that make it a real risk to choose the real but slower gains that can be achieved by improving teaching" (Walsh, 2017, para.12). Many younger teachers have been trained to believe that test prep *is* good instruction. The objective for every educational institution should be student learning. The important point is that teachers teach at a level where students can learn and not just in a manner that is believed to improve test scores (Phelps, 2016). According to the research of Jennings and Bearak (2014), "test-specific instruction— often referred to as "teaching to the test"—has led to score inflation on state tests, where score inflation is defined as gains in student test scores larger than gains in student learning in the domain to which the test intends to generalize" (p. 381). Put simply, achievement results do not adequately reflect what students have learned.

Finally, equity in student achievement has become a hot topic in educational circles (Chaparro, Nese, & McIntosh, 2015). A quality education and the ability to achieve has many implications for society, such as the ability of an individual to be competitive in the job market, the ability to be a productive citizen, or the enjoyment of a flourishing life (Shields, Newman, & Satz, 2017). The ability for all students to access a

quality education that results in a high level of achievement varies according to socio-economic status. While all students in the United States are given a free education, the opportunity for a quality educational experience depends on the neighborhood you live in. The quality of the teaching and administrative staff, the budget afforded to the school district, the teaching supplies, texts, and manipulatives differ from neighborhood to neighborhood. The ripple effect of a low score on an achievement test is felt for the rest of the child's life (Shields, Newman, & Satz, 2017).

Summary

The theories of andragogy, constructivism, and metacognition guided the study of the evaluation process in schools. These theories provided a lens through which to view adult learning in a setting where the adults were highly competent in their field of work. The implications of using a continuous feedback model of evaluation, with coaching, and mediative questions guiding the process are great. Educator evaluations are designed as a tool for administrators to influence change by facilitating teacher growth in both mindset and pedagogy, increasing their effectiveness in the school community. The instructional leader of the school impacts the quality of teaching and learning that happens in the classroom. Key components an administrator must take to ensure high-quality instruction are happening on a consistent basis are through frequent visits to each classroom, followed by face-to-face effective feedback (Clotfelter et al., 2007; Marshall, 2009; Nye et al., 2004; Rivkin et al., 2005). The greatest impact on student achievement is through teacher quality, which is defined by looking at the effectiveness of the teacher in the classroom. Student achievement is made up of both formative and summative assessment. The process of identifying whether a student understands content that has

been taught is complex, especially when it involves a one-time standardized assessment. The assessment process raises more questions than answers and is a constant subject of discussion and debate. However, it is the measure we look at when trying to gauge student success. In Chapter Three, there is an explanation of methodology used in conducting this study, consisting of the purpose of the study, research questions, null hypotheses, participants, sampling, research setting, research design, procedure followed, instrumentation, and an analysis of data. Chapter Four presents the research findings and interpretation, and Chapter Five, the concluding chapter, provides a summary of the findings, the limitations, interpretation and discussion, professional implications, and recommendations for future research.

CHAPTER THREE

RESEARCH AND METHODOLOGY

The focus on improving the educator evaluation process correlates with the research that a critical predictor of student achievement is teacher quality (Clotfelter, Ladd, & Vigdor, 2007; Ladd & Sorensen, 2017; Nye, Konstantopoulos, & Hedges, 2004; Rice, 2013; Rivkin, Hanushek, & Kain, 2005). The level of teacher quality can be improved through a process of thoughtful interaction about the teaching process. As principals increase the time spent in the classroom, there is an opportunity to have meaningful professional discussions about the pace of instruction, teaching strategies that are used, how decisions are made, and the level of interventions needed for particular students. In 2015, districts in Missouri were given a choice about which evaluation process they might choose to use as a basis for teacher evaluations. Some districts chose the NEE evaluation process, which was developed by the University of Missouri. This study analyzed the achievement results of students in Grades 3-5 in Missouri schools over a 4-year period to look at the difference in the results for schools who used the NEE evaluation process and those who did not. Knowles' (1968, 1970, 1975, 1980) theory of andragogy was used as a basis for viewing the evaluation process with adult learners. Teachers are not only adults, but are adults with a high level of competence in their craft of teaching content and managing the classroom.

When undertaking the evaluation process for these proficient adults, it seemed useful to consider the needs of adult learners. Vygotsky's (1962) theory of constructivism expands an approach to adult learning that includes social interaction around the learning process. As teachers are engaged in a conversation guided by the data gathered during

observations, meditative questions are posed, and the teacher engages in an interactive process of thinking and discussing various aspects of the lesson. Finally, thinking is enhanced through the process of metacognition, a theory developed by Flavell (1979) where individuals are able to “think about their thinking” (p. 906) in a way that helps make visible a person's tacit actions and thoughts. There is value in using the evaluation process to help a teacher think through their own teaching processes, which can result in the effective managing, monitoring, and modifying of their practice. Chapter Three details the methodology utilized for this study. Contained in this chapter are the research questions, null hypotheses, a description of the research setting and design, instrumentation, and the process of collecting and analyzing the data. This study analyzed Missouri student achievement results in Grades 3-5 over a 4-year period to identify if there was a difference between schools who used the NEE evaluation process and those that did not.

Research Questions

RQ1: What is the difference between student achievement in English Language Arts (ELA) and math in Grades 3-5 as measured by the Missouri Assessment Program (MAP) between districts that used the Network for Educator Effectiveness (NEE) evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced?

RQ1 A - What is the difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 B - What is the difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 E - What is the difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ2: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation

process and those that did not for the years of 2016-2017 as measured by the percentage sum of students achieving proficient and advanced?

RQ2 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 C - What is the difference between student achievement in **ELA in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 D - What is the difference between student achievement in **math in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 E - What is the difference between student achievement in **ELA in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ3: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2017-2018 as measured by the percentage sum of students achieving proficient and advanced?

RQ3 A - What is the difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 B - What is the difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that do not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and

those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 E - What is the difference between student achievement in **ELA in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 F - What is the difference between student achievement in **math in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ4: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2018-2019 as measured by the percentage sum of students achieving proficient and advanced?

RQ4 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 E - What is the difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

Null Hypotheses

H₀1: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced.

H₀1 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 E - There is no statistical difference between student achievement **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀2: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2016-2017 as measured by the percentage of students achieving proficient and advanced.

H₀2 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀3: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2017-2018 as measured by the percentage of students achieving proficient and advanced.

H₀3 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₄: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2018-2019 as measured by the percentage of students achieving proficient and advanced.

H₀₄ A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀₄ B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

Selection and Sampling

In this study, MAP student achievement data, based on the sum of students scoring in proficient and advanced, were utilized for students enrolled in Missouri public school districts for the following school years: 2015-2016, 2016-2017, 2017-2018, and 2018-2019. The MAP student achievement data were included in this study as MODESE

had already collected and grouped the data, making this a causal-comparison ex post facto study. A total population sampling would ensure that a difference between variables could be generalized. In a total population sampling an identified group represents an entire population. The total population sample size must include enough participants to legitimize statistical exploration (Creswell & Creswell, 2018; Etikan, Musa, & Alkassim, 2015). In this study the total population sampling parameters were Missouri public school students in third-fifth Grades during the school years of 2015-2016, 2016-2017, 2017-2018, and 2018-2019. The MODESE open access database housed the data for all Missouri schools in a publicly accessible database, making a total population sampling feasible. Student ELA and math achievement percentages on the MAP for students in Grades 3-5 were extracted from the MODESE open access database for the years included in the study. NEE provided lists of participating districts by school year. Student achievement percentages in the levels of proficient and advanced were gathered and analyzed to see if a difference existed between Missouri school districts that implemented the NEE evaluation process and those that did not. It was determined in order to compare districts that implemented the NEE evaluation process and those that did not, independent samples *t* tests would be conducted (Gay et al., 2009). The independent samples *t* tests measured whether the mean, or average, of students achieving levels of proficient and advanced differed between NEE evaluation process districts and those that were not. Fisher, a statistician, determined if the same situation resulted in the same outcome 1 in 20 times it was unique enough to connect statistical significance (Bruce, 2015).

Research Setting

According to the United States Census Bureau (2018) and Population Data Series

(Missouri Economic Research and Information Center, 2018), the population of Missouri ranked 18th highest in the nation and was the 8th lowest in cost of living. At the time of the study, Missouri, resting in the Midwestern section of the United States, was comprised of the following state and school-aged demographics (MODESE, 2019a) represented in Table 1:

Table 1

Missouri Demographics and School-Aged Demographics

Missouri demographics	Percentage for each demographic	School-aged demographics
Caucasian	83%	71.20%
Black	11.8%	15.80%
Hispanic/Latino	4.3%	6.40%
Multiracial	2.3%	3.90%
Asian	2.1%	2.00%
American Indian	.6%	.40%
Native Hawaiian	.6%	No data
Other Pacific Islander	.2%	.30%
Over 18 years of age	88%	No data
18 years old and under	22%	No data

At the time of the study, in the state of Missouri there were 518 districts, 567 high schools, 50 junior highs, 291 middle schools, 1,229 elementary schools, and 138 others, with 69,475 teachers currently employed (MODESE, 2019b). Since the data were housed within the MODESE open access database, this virtual repository became a part of the research setting. The state of Missouri partnered with the Northwest Evaluation Association (NWEA, 2019) to develop a standardized test process that passed reliability and validity standards. MAP data were collected yearly in the spring. MAP is standards-based and measures proficiency levels according to predetermined grade-level skills. Prior to administering the MAP test, examiners signed a waiver that indicated participation in structured face-to-face, virtual trainings, and verified that process

protocols were followed with precise fidelity. This process maintained consistency in test administration as a method to protect the reliability and validity of the student achievement scores. Each school district had a district testing coordinator and liaisons for each building. Liaisons were the point of contact in case a problem arose and were responsible for securing all testing materials, creating testing schedules that followed timing guidelines set by MODESE, and ensuring that every student had submitted the assessment in each content area, based on grade-level requirements. Students took the MAP by logging onto a secure platform downloaded on individual student computers. The platform sent student achievement data directly to the assessment company. There was no state- or district-level access to assessment scores until results were sent from the assessment company. School districts received student achievement data a few months after the testing window closed (MODESE, n.d.). Lists of school districts who were members of the NEE evaluation process were obtained from NEE. The list of Missouri public schools that administered the MAP was accessed on the MODESE open access database.

Research Design

This quantitative, causal-comparative ex post facto study was used to compare the percentages of students scoring in the levels of proficient and advanced in ELA and math in Missouri districts that had implemented the NEE evaluation process against those districts that did not to determine if a difference existed. In a causal-comparative design, the researcher takes two already established groups and performs data analysis (Salkind, 2010). To best answer the research questions, a causal-comparative ex post facto study was utilized due to the fact that the MAP assessment data were already collected and

districts had previously been identified as participating in the NEE evaluation process or not. In this study the NEE evaluation process had already been implemented and the MAP assessments had already been completed. The dependent variable of student percentages in proficient and advanced were compared to the independent variable of districts participating in the NEE evaluation process or not in order to determine whether a significant difference existed (Salkind, 2010). There was no manipulation of variables, the groups were already formed, and group performance was compared between the two groups (Creswell & Creswell, 2018; Salkind, 2010).

The independent variable was Missouri school districts that had implemented the NEE and those that had not, while the dependent variable was the sum of third- to fifth-grade student percentages scoring in proficient and advanced in ELA and math. In order to compare differences, ex post facto MAP data were downloaded from the MODESE open access database. It was the desire of the researcher to establish whether a difference existed in the dependent variable (MAP proficiencies) between those districts that used the NEE evaluation process and those that did not (Salkind, 2010). An independent samples *t* test was the parametric test utilized in order to determine the statistical significance in student achievement between districts that had implemented the NEE evaluation process and those that had not (Creswell & Creswell, 2018; Salkind, 2010).

Procedures

Southwest Baptist University dissertation guidelines require approval from the Research Review Board (RRB) be granted to ensure human participants are protected prior to conducting research. The RRB for this study requested approval to utilize student achievement data for the 2016-2019 assessment periods. Permission was granted to

collect data and conduct the analysis to report the findings. Data used were student percentages in each district who scored at the level of proficient and advanced on the MAP. Identities of specific districts, teachers, and student information were protected. Dissertation data were shared between the researcher and SBU advisor on an Excel spreadsheet in order to protect district identities.

Data from Missouri school districts were retrieved from the MODESE open access database and recorded in an Excel spreadsheet. Using total population sampling third- through fifth- grade student ELA and math achievement percentages in proficient and advanced were extracted and entered in the Excel spreadsheet. Data were organized by school year, district, and grade level. The total population sampling ensured a difference between variables could be generalized (Cresswell & Cresswell, 2018; Etikan, Musa, & Alkassin, 2015). Districts were separated based on the independent variable groups. Each district received a value of 1 if the district implemented the NEE evaluation process that year, or a value of 0 if the district did not implement the NEE evaluation process that year. Once all data were chronicled, multiple independent samples *t* tests were performed in order to reject, or fail to reject the null hypothesis. An independent samples *t* test was the appropriate choice as the independent variable were either a district implemented the NEE evaluation process that year or it did not. A district could not be included in both groups.

To analyze the data in SPSS, the means were compared by grouping the independent variable based on the specified value of “1” or “0.” The means were analyzed to determine whether a significant statistical difference existed between the independent variable groups. The data were reviewed to identify if the data analysis

determined the significance value was $p > .05$ or larger. Statistical significance determined if each group differed in achievement scores in districts that implemented the NEE evaluation process and those that did not.

Instrumentation

The data analyzed in this study were gathered from MODESE's open access database. As the data were public knowledge it was not necessary to obtain permission from individual school districts to conduct research, however SBU provided permission to conduct the study through the formal RRB process. The use of the MODESE database as an instrument to analyze data was thorough as every public school student in Missouri was required to complete the MAP, according to grade-level requirements. In 2015, the MAP test provider changed from Smarter Balanced to Data Recognition Corporation (DRC). As MODESE and DRC worked to develop an assessment aligned to the Missouri Learning Standards new cut scores and performance levels were established. The DRC desired to provide student achievement results that proved to be valid and reliable. According to the Spring 2018 MAP Grade Level Assessment Technical Report, the assessment was evaluated for reliability using Cronbach's coefficient alpha (DRC, 2018). A score between 0 and 1 was obtained, with a score of .8 considered reliable. According to DRC (2018), Cronbach's alpha range is between .89-.92 for ELA and between .90-.93 for Math, which are both in the acceptable range for reliability (Adams, 2020; DRC, 2018).

The MAP consists of multiple styles of questions and performance events. "Assessments may contain selected response (SR) items, evidence-based selected response (EBSR), constructed response (CR) items, writing tasks (WT), performance

events (PE) and/or technology enhanced (TE) items” (MODESE, 2018, para. 3) and take 3-5 hours to complete. Assessments are scored digitally excluding performance events, which are both digitally and hand scored. Even though the psychometrics regarding the accuracy of data from MODESE were not available, MODESE is a publicly held entity that reports to the state legislature and it was assumed that the data were accurate. The open access database was used to collect data from every public school district in Missouri were verified through the Missouri School Improvement Program (MSIP) by the MODESE.

Data Analysis

Once the data for this study were downloaded, data cleaning took place. The data cleaning consisted of adjusting the “Type” from string to numeric with 3 decimal points, under the “Measure” column, changing each variable to scale, naming the variables, and labeling. To run the descriptive statistics analysis, third-fifth grade ELA and math were moved to the dependent list and NEE evaluation process or not was placed in the factor list. NEE evaluation process districts were identified with a 1 value and districts not implementing the NEE evaluation process were identified with a 0 value. A descriptive statistics analysis was performed to identify any incomplete, inaccurate, or irrelevant data. In addition, if data were missing, the researcher replaced the data with the correct data by checking the Excel spreadsheet, which contained the original score, and analyzed each chart. Demographic information was not a part of this study.

Once the data were cleaned, independent samples *t* tests were performed to detect if statistical significance existed between the dependent variable of student achievement percentages in proficient and advanced, and compared student achievement between the

independent variable of districts implementing the NEE evaluation process or not in order to determine whether a statistical significance existed (Salkind, 2010). No controls were applied, therefore multiple independent samples *t* tests were performed in order to determine acceptance or rejection of the null hypothesis. “The Independent Samples *t*-test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different” (Kent State University, n.d., para. 1). The independent samples *t* tests were chosen since this study had one categorical independent variable with two levels, districts that implemented the NEE evaluation process or not, and one continuous dependent variable, the sum of student achievement percentages in proficient and advanced. The independent samples *t* test was utilized to determine statistical significance in the mean scores between the two independent variable groups (Gay et al., 2009).

Laerd (2018) stated there are six assumptions necessary to be considered when conducting an independent samples *t* test. Assumption 1 was addressed as data were measured on a continuous scale. Assumption 2 was met as this study consisted of two categorical, independent groups, those districts who implemented the NEE evaluation process and those that did not. Assumption 3, independence of observation, was met as districts either implemented the NEE evaluation process, or did not. A district could not be a participant in more than one group. Assumptions 4, 5, and 6 were tested utilizing SPSS statistics software. Assumption 4 addressed whether or not the dependent variable, MAP proficiency scores, caused any outliers and to see whether data points followed the usual pattern within the independent variable data on the chart. Outliers cause problems as they can unjustifiably influence the assumptions and results. Outliers were analyzed

for statistical implications as well as theoretical factors related to the design and research goals in this study. Minimal outliers were identified as compared to the amount collected. As the independent samples t test was robust enough, the study proceeded as planned. Assumption 5 was addressed using the Kolmogorov-Smirnov and Shapiro-Wilk tests of normality. Tests of normality help determine whether the data follows a normal distribution, or not, and produces a level of significance. If the significance value is greater than .05, there is a normal distribution of data. If the significance value is less than .05, there is not a normal distribution of data. Data that are not normally distributed violate the assumption of normality. Assumption 6 focused on the homogeneity of variance and normality of the distribution of the data. When the standard deviation, or variance, is greater between groups and one group is larger it contributes more to the total variance. To combat this, weight must be given to the group based on its sample size by pooling the variance. To calculate Cohen's d in SPSS under group statistics, take the sample size, mean size, and standard deviation for each group. Insert the data into the RSTAT calculator for t tests. This results in Cohen's d . Testing for statistical significance demonstrates that the results of the data did not happen by chance. Cohen's d standardizes the effect size. Calculating the effect size illustrates how big of a difference resulted. When the probability is greater than .05, there is no statistical significance. Conversely, if the probability is lower than .05, the assumption of homogeneity has been violated (Laerd, 2016). Gay et al. (2009) explained, when comparing how strong the relationship is between variables, an effect size can be calculated. If there is a small relationship identified, the effect size could be around .20. If there is a strong relationship between variables, the effect size could be around .80. Once the subgroup with statistical

significance was detected the effect size was calculated. The effect size was calculated by dividing the mean difference between subgroups for each grade level. The findings, as well as the assumptions tests that were carried out, were reported (Laerd, 2016).

Summary

The purpose of this quantitative, causal-comparative study was to see if a difference existed between student achievement in Grades 3-5 on the ELA and math MAP test in Missouri schools that implemented the NEE evaluation process and those that did not during the years of 2016-2019. The open access MODESE database provided the data for this study. Data were gathered, input in an Excel spreadsheet, and independent samples *t* tests conducted. Contained in Chapter Three were the methodology used: research questions, participants, a description of the research design, procedure, instrumentation, and an analysis of the data. This research was designed to study students' proficient- and advanced-levels scores on the MAP in ELA and math between Missouri districts that had implemented the NEE evaluation process against those that did not to determine if a difference existed. Chapter Four presents outcomes of the data analysis and research findings. Chapter Five, the concluding chapter, provides a summary of the research, and recommendations for future research.

CHAPTER FOUR

ANALYSIS OF DATA

The purpose of this study was to identify whether a difference existed in student proficiency levels according to the state MAP in the content areas of ELA and math in districts that implemented the NEE evaluation process with those that did not. Chapter Four includes a brief description of the research process followed, as Chapter Three presented the research design and methodology in greater depth. The data analysis is presented in order to answer research questions, determining whether the null hypotheses were accepted or rejected.

In response to federal and state mandates to revise the educator evaluation system, in Missouri, districts were given autonomy whether to develop their own educator evaluation process aligned with the requirements set by the standards, or purchase a prepackaged process (MODESE, 2011). The NEE platform was developed by the University of Missouri in response to the federal and state mandate. While the effect of the NEE evaluation process on student achievement cannot be determined, a critical predictor of student achievement is teacher quality (Clotfelter et al., 2007; Ladd & Sorensen, 2017; Nye et al., 2004; Rice, 2013; Rivkin et al., 2005). The level of teacher quality can be improved through a process of thoughtful interaction about the teaching process and meaningful professional discussions between the teacher and principal. It is the job of the principal in each building, the instructional leader, to provide resources and facilitate the development of strategies and skills and to help a teacher continue to develop and grow in the craft of teaching (Hopkins, 2008). The evaluation process provides an opportunity for conversation and reflection. When using the theory of

andragogy to inform the practice of evaluations, principals are able to keep in mind the various aspects of adult learning theory while honoring experience, age, and background of the teacher. This allows a relationship of mutual trust to develop that then positively affects the teacher's ability to manage, monitor, and modify behaviors, which can lead to effectiveness in the classroom. Constructivism occurs when individuals learn by constructing meaning from information they have received, independent of others, by putting together parts to make a whole, relating objects to each other, and creating a model of understanding. Learners perform their own mental activity in order to construct meaning. While individuals can construct meaning by individually reflecting on their own practice, the process of working with another person and receiving feedback can enhance the process of reflection and metacognition (Vygotsky, 1962, 2016). According to Flavell (1979), metacognition is defined as "thinking about thinking" (p. 906). Chick (n.d.) expanded the definition of metacognition as "the process used to plan, monitor, and assess one's understanding and performance" (p. 1). Rather than thinking about what is happening in the moment, metacognition involves thinking about what a person has experienced in a way that is thoughtful, deliberate, intentional, goal directed, and future oriented (Hacker, Dunlosky, & Graesser, 1998). As adult learners use metacognition, or reflect on experiences, they develop the capacity for self-direction, self-improvement, and self-efficacy. A well-constructed evaluation system that includes key components is said to have an impact on teacher performance, which could result in improved student achievement (Darling-Hammond, 2013). Chapter Four identifies whether a difference existed between districts that implemented the NEE evaluation process and those that did not in the area of student achievement in ELA and math according to the Third-through

Fifth-grade MAP test during the school years of 2015-2016, 2016-2017, 2017-2018, and 2018-2019.

Research Questions

RQ1: What is the difference between student achievement in English Language Arts (ELA) and math in Grades 3-5 as measured by the Missouri Assessment Program (MAP) between districts that used the Network for Educator Effectiveness (NEE) evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced?

RQ1 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 C - What is the difference between student achievement in **ELA in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 D - What is the difference between student achievement in **math in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of

students achieving proficient and advanced?

RQ1 E - What is the difference between student achievement in **ELA in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 F - What is the difference between student achievement in **math in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ2: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2016-2017 as measured by the percentage sum of students achieving proficient and advanced?

RQ2 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 C - What is the difference between student achievement in **ELA in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and

those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 D - What is the difference between student achievement in **math in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 E - What is the difference between student achievement in **ELA in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 F - What is the difference between student achievement in **math in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ3: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2017-2018 as measured by the percentage sum of students achieving proficient and advanced?

RQ3 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 B - What is the difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that do not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 E - What is the difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ4: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation

process and those that did not for the years of 2018-2019 as measured by the percentage sum of students achieving proficient and advanced?

RQ4 A - What is the difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 B - What is the difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 E - What is the difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

Null Hypotheses

H₀1: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced.

H₀1 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀₁ E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀₁ F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀₂: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2016-2017 as measured by the percentage of students achieving proficient and advanced.

H₀₂ A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀₂ B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀3: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2017-2018 as measured by the percentage of students achieving proficient and advanced.

H₀3 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀3 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀4: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2018-2019 as measured by the percentage of students achieving proficient and advanced.

H₀4 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀₄ F - There is no statistical difference between student achievement in **math in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

Data Analysis and Findings

Through the use of the statistical tool SPSS, research questions and the associated null hypotheses were investigated by completing an analysis of the data. To compare the sum of proficient and advanced levels of student achievement between districts that used the NEE evaluation process and those that did not, independent samples *t* tests were conducted for the years of 2015-2016, 2016-2017, 2017-2018, and 2018-2019. Based on the statistical outcomes, each null hypothesis was either accepted or rejected. The independent variable was Missouri school districts that had implemented the NEE evaluation process and those that had not, while the dependent variable was the sum of third- to fifth-grade student percentages scoring proficient and advanced in ELA and math. In order to compare differences, MAP data were obtained for each year. It was the desire of the researcher to establish whether a difference existed in the dependent variable (MAP proficiencies) between those districts that used the NEE evaluation process and those that did not (Salkind, 2010). An independent samples *t* test was the parametric test utilized in order to determine the statistical significance in student achievement between districts that had implemented the NEE evaluation process and those that had not (Creswell & Creswell, 2018; Salkind, 2010).

Samples

In this study the total population sampling parameters were Missouri public school districts that administered the MAP and student achievement data based on the sum of students scoring in proficient and advanced in students enrolled in third to fifth grades for the following school years: 2015-2016, 2016-2017, 2017-2018, and 2018-2019. A total population sampling would ensure that a difference between variables could be generalized. In a total population sampling an identified group represents an entire population. The total population sample size must include enough participants to legitimize statistical exploration (Creswell & Creswell, 2018; Etikan et al., 2015). The number of school districts that implemented the NEE evaluation process in 2016 was 228 out of the 465 districts that had MAP data, according to the MODESE open-access database (see Table 2). In 2017, 231 out of the 462 districts that had MAP data according to the MODESE open-access database implemented the NEE evaluation process (see Table 3). In 2018, 225 out of the 467 districts that had MAP data, according to the MODESE open-access database implemented the NEE evaluation process (see Table 4). In 2019, 233 out of the 462 districts that had MAP data, according to the MODESE open-access database implemented the NEE evaluation process (see Table 5).

Table 2

2016 Case Processing Summary

	2016 NEE			Cases			
	District or	<u>Valid</u>		<u>Missing</u>		<u>Total</u>	
	Not	<i>N</i>	Percent	<i>N</i>	Percent	<i>N</i>	Percent
3 RD -GRADE ELA	Yes	228	95.4	11	4.6	239	100.0
	No	237	90.1	26	9.9	263	100.0
3 RD -GRADE MATH	Yes	228	95.4	11	4.6	239	100.0
	No	237	90.1	26	9.9	263	100.0
4 TH -GRADE ELA	Yes	228	95.4	11	4.6	239	100.0
	No	237	90.1	26	9.9	263	100.0
4 TH -GRADE MATH	Yes	228	95.4	11	4.6	239	100.0
	No	237	90.1	26	9.9	263	100.0
5 TH -GRADE ELA	Yes	228	95.4	11	4.6	239	100.0
	No	237	90.1	26	9.9	263	100.0
5 TH -GRADE MATH	Yes	228	95.4	11	4.6	239	100.0
	No	237	90.1	26	9.9	263	100.0

Table 3

2017 Case Processing Summary

	2017 NEE			Cases			
	District or	<u>Valid</u>		<u>Missing</u>		<u>Total</u>	
	Not	<i>N</i>	Percent	<i>N</i>	Percent	<i>N</i>	Percent
3 RD -GRADE ELA	Yes	231	92.8	18	7.2	249	100.0
	No	237	92.6	19	7.4	256	100.0
3 RD -GRADE MATH	Yes	231	92.8	18	7.2	249	100.0
	No	237	92.6	19	7.4	256	100.0
4 TH -GRADE ELA	Yes	231	92.8	18	7.2	249	100.0
	No	237	92.6	19	7.4	256	100.0
4 TH -GRADE MATH	Yes	231	92.8	18	7.2	249	100.0
	No	237	92.6	19	7.4	256	100.0
5 TH -GRADE ELA	Yes	231	92.8	18	7.2	249	100.0
	No	237	92.6	19	7.4	256	100.0
5 TH -GRADE MATH	Yes	231	92.8	18	7.2	249	100.0
	No	237	92.6	19	7.4	256	100.0

Table 4

2018 Case Processing Summary

	2018 NEE		Cases				
	District or	<u>Valid</u>		<u>Missing</u>		<u>Total</u>	
	Not	<i>N</i>	Percent	<i>N</i>	Percent	<i>N</i>	Percent
3 RD -GRADE ELA	Yes	225	91.1	22	8.9	247	100.0
	No	242	91.3	23	8.7	265	100.0
3 RD -GRADE MATH	Yes	225	91.1	22	8.9	247	100.0
	No	242	91.3	23	8.7	265	100.0
4 TH -GRADE ELA	Yes	225	91.1	22	8.9	247	100.0
	No	242	91.3	23	8.7	265	100.0
4 TH -GRADE MATH	Yes	225	91.1	22	8.9	247	100.0
	No	242	91.3	23	8.7	265	100.0
5 TH -GRADE ELA	Yes	225	91.1	22	8.9	247	100.0
	No	242	91.3	23	8.7	265	100.0
5 TH -GRADE MATH	Yes	225	91.1	22	8.9	247	100.0
	No	242	91.3	23	8.7	265	100.0

Table 5

2019 Case Processing Summary

	2019 NEE		Cases				
	District or	<u>Valid</u>		<u>Missing</u>		<u>Total</u>	
	Not	<i>N</i>	Percent	<i>N</i>	Percent	<i>N</i>	Percent
3 RD -GRADE ELA	Yes	233	92.1	20	7.9	253	100.0
	No	229	90.9	23	9.1	252	100.0
3 RD -GRADE MATH	Yes	233	92.1	20	7.9	253	100.0
	No	229	90.9	23	9.1	252	100.0
4 TH -GRADE ELA	Yes	233	92.1	20	7.9	253	100.0
	No	229	90.9	23	9.1	252	100.0
4 TH -GRADE MATH	Yes	233	92.1	20	7.9	253	100.0
	No	229	90.9	23	9.1	252	100.0
5 TH -GRADE ELA	Yes	233	92.1	20	7.9	253	100.0
	No	229	90.9	23	9.1	252	100.0
5 TH -GRADE MATH	Yes	233	92.1	20	7.9	253	100.0
	No	229	90.9	23	9.1	252	100.0

Demographics

At the time of the study, in the state of Missouri there were 518 districts, 567 high schools, 50 junior highs, 291 middle schools, 1,229 elementary schools, and 138 others, with 69,475 teachers currently employed (MODESE, 2019b) (see Table 6). Missouri, resting in the Midwestern section of the United States, is comprised of the following demographics: 83% Caucasian, 11.8% Black, 4.3% Hispanic/Latino, 2.3% two or more races, 2.1% Asian, .6% American Indian, .6% Native Hawaiian, and .2% Other Pacific Islander. The residents of Missouri consisted of 88% over 18 years of age, with 22% at 18 years old and under. In 2018, students in the school age population were represented in the following way: enrollment was 883,611 students, 71.20% White, 15.80% Black, 6.40% Hispanic, 3.90% Multiracial, 2.00% Asian, .40% Indian, and .30% Pacific Islander. Fifty percent of students qualified for free and reduced services (MODESE, 2019a).

Table 6

Missouri Demographics and School-aged Demographics

Missouri Demographics	Percentage for each demographic	School-aged demographics
Caucasian	83%	71.20%
Black	11.8%	15.80%
Hispanic/Latino	4.3%	6.40%
Multiracial	2.3%	3.90%
Asian	2.1%	2.00%
American Indian	.6%	.40%
Native Hawaiian	.6%	No data
Other Pacific Islander	.2%	.30%
Over 18 years of age	88%	No data
18 years old and under	22%	No data

Data Cleaning

Once the data for this study were downloaded, data cleaning took place. The data cleaning consisted of adjusting the “Type” from string to numeric with three decimal points, under the “Measure” column changing each variable to scale, naming the variables, and labeling. To run the descriptive statistics analysis, third- to fifth-Grade ELA and math were moved to the dependent list and NEE evaluation process or not was placed in the factor list. NEE evaluation process districts were identified with a 1 value and districts not implementing the NEE evaluation process were identified with a 0 value. A descriptive statistics analysis was performed to identify any incomplete, inaccurate, or irrelevant data. In addition, if data were missing, the researcher replaced the data with the correct data by checking the Excel spreadsheet, which contained the original scores.

Once the data were cleaned, independent samples t tests were performed to detect if statistical significance existed between the dependent variable of student achievement percentages in proficient and advanced, and to compare student achievement between the independent variable of districts implementing the NEE evaluation process or not in order to determine whether a statistical significance existed (Salkind, 2010). No controls were applied, therefore multiple independent samples t tests were performed in order to determine acceptance or rejection of the null hypothesis. “The Independent Samples t -test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different” (Kent State University, n.d., para. 1). The independent samples t tests were chosen since this study had one categorical

independent variable with two levels, districts that implemented the NEE evaluation process or not, and one continuous dependent variable, the sum of student achievement percentages in proficient and advanced. The independent samples t test was utilized to determine statistical significance in the mean scores between the two independent variable groups (Gay et al., 2009).

Laerd (2018) stated there are six assumptions necessary to be considered when conducting an independent samples t test. Assumption 1 was addressed as the data were measured on a continuous scale. Assumption 2 was met as this study consisted of two categorical, independent groups, those districts that implemented the NEE evaluation process and those that did not. Assumption 3, independence of observation, was met as districts either implemented the NEE evaluation process, or did not. A district could not be a participant in more than one group. Assumptions 4, 5, and 6 were tested utilizing SPSS statistics software. Assumption 4 addressed whether or not the dependent variable, MAP proficiency scores, caused any outliers and whether data points followed the usual pattern within the independent variable data on the chart. Outliers cause problems as they can unjustifiably influence the assumptions and results. Outliers were analyzed for statistical implications as well as theoretical factors related to the design and research goals in this study. Minimal outliers were identified as compared to the amount collected. As the independent samples t test was robust enough, the study proceeded as planned. Assumption 5 was addressed using the Kolmogorov-Smirnov and Shapiro-Wilk tests of normality: (see Tables 7-10).

Table 7

2016 Tests of Normality

	2016 NEE	Kolmogorov-			<u>Shapiro-Wilk</u>		
	District or	<u>Smirnov^a</u>					
	Not	Statistic	df	Sig.	Statistic	df	Sig.
3 RD -GRADE ELA	Yes	.059	228	.055	.952	228	.000
	No	.068	237	.010	.965	237	.000
3 RD -GRADE MATH	Yes	.143	228	.000	.594	228	.000
	No	.404	237	.000	.115	237	.000
4 TH -GRADE ELA	Yes	.048	228	.200*	.995	228	.618
	No	.062	237	.030	.966	237	.000
4 TH -GRADE MATH	Yes	.070	228	.009	.970	228	.000
	No	.036	237	.200*	.991	237	.130
5 TH -GRADE ELA	Yes	.059	228	.053	.970	228	.000
	No	.060	237	.040	.984	237	.009
5 TH -GRADE MATH	Yes	.071	228	.007	.968	228	.000
	No	.052	237	.200*	.982	237	.004

^a. This is a lower bound of the true significance. ^b. Lilliefors Significance Correction.

Table 8

2017 Tests of Normality

	2017 NEE	Kolmogorov-			<u>Shapiro-Wilk</u>		
	District or	<u>Smirnov^a</u>					
	Not	Statistic	df	Sig.	Statistic	df	Sig.
3 RD -GRADE ELA	Yes	.056	231	.071	.984	231	.013
	No	.502	237	.000	.130	237	.000
3 RD -GRADE MATH	Yes	.056	231	.079	.987	231	.030
	No	.464	237	.000	.068	237	.000
4 TH -GRADE ELA	Yes	.065	231	.019	.950	231	.000
	No	.034	237	.200*	.993	237	.334
4 TH -GRADE MATH	Yes	.059	231	.051	.974	231	.000
	No	.043	237	.200*	.978	237	.001
5 TH -GRADE ELA	Yes	.042	231	.200*	.985	231	.014
	No	.065	237	.017	.986	237	.024
5 TH -GRADE MATH	Yes	.058	231	.056	.987	231	.039
	No	.047	237	.200*	.985	237	.012

^a. This is a lower bound of the true significance. ^b. Lilliefors Significance Correction.

Table 9

2018 Tests of Normality

	2018 NEE	Kolmogorov-			Shapiro-Wilk		
	District or	<u>Smirnov^a</u>			<u>Shapiro-Wilk</u>		
	Not	Statistic	<i>df</i>	<i>Sig.</i>	Statistic	<i>df</i>	<i>Sig.</i>
3 RD -GRADE ELA	Yes	.048	225	.200*	.993	225	.319
	No	.065	242	.014	.977	242	.001
3 RD -GRADE MATH	Yes	.069	225	.012	.958	225	.000
	No	.042	242	.200*	.989	242	.055
4 TH -GRADE ELA	Yes	.062	225	.033	.970	225	.000
	No	.046	242	.200*	.988	242	.034
4 TH -GRADE MATH	Yes	.051	225	.200*	.983	225	.008
	No	.039	242	.200*	.990	242	.082
5 TH -GRADE ELA	Yes	.035	225	.200*	.990	225	.131
	No	.054	242	.082	.989	242	.054
5 TH -GRADE MATH	Yes	.065	225	.023	.973	225	.000
	No	.037	242	.200*	.988	242	.038

^a. This is a lower bound of the true significance. ^b. Lilliefors Significance Correction.

Table 10

2019 Tests of Normality

	2019 NEE	Kolmogorov-			Shapiro-Wilk		
	District or	<u>Smirnov^a</u>			<u>Shapiro-Wilk</u>		
	Not	Statistic	<i>df</i>	<i>Sig.</i>	Statistic	<i>df</i>	<i>Sig.</i>
3 RD -GRADE ELA	Yes	.069	233	.010	.973	233	.000
	No	.055	229	.085	.973	229	.000
3 RD -GRADE MATH	Yes	.069	233	.008	.971	233	.000
	No	.047	229	.200*	.987	229	.042
4 TH -GRADE ELA	Yes	.050	233	.200*	.984	233	.009
	No	.050	229	.200*	.992	229	.212
4 TH -GRADE MATH	Yes	.050	233	.200*	.983	233	.006
	No	.056	229	.077	.990	229	.139
5 TH -GRADE ELA	Yes	.076	233	.002	.974	233	.000
	No	.032	229	.200*	.996	229	.820
5 TH -GRADE MATH	Yes	.059	233	.046	.980	233	.002
	No	.035	229	.200*	.987	229	.036

^a. This is a lower bound of the true significance. ^b. Lilliefors Significance Correction.

Tests of normality help determine whether data follow a normal distribution, or not, and produce a level of significance. If the significance value is greater than .05, there is a normal distribution of data. If the significance value is less than .05, there is not a normal distribution of data. Data that are not normally distributed violate the assumption of normality. Assumption 6 focused on the homogeneity of variance and normality of the distribution of the data. When the standard deviation, or variance, is greater between groups and one group is larger it contributes more to the total variance. For this reason, weight must be given to the group based on its sample size by pooling the variance.

The calculations of Cohen's *d* in SPSS consists of the sample size, mean size, and standard deviation for each group. This results in Cohen's *d*. Cohen's *d* standardizes the effect size. Calculating the effect size illustrates how significant a difference resulted. When the probability is greater than .05, there is no statistical significance. Conversely, if the probability is lower than .05, the assumption of homogeneity has been violated (Laerd, 2016). Gay et al. (2009) explained when comparing how strong the relationship is between variables an effect size can be calculated. If there is a statistically small difference identified, the effect size could be around .20. If there is a strong difference between variables, the effect size could be around .80. Once the subgroup with statistical significance was detected the effect size was calculated (Laerd, 2016). The effect size was calculated by dividing the mean difference between subgroups for each grade level and school year. The findings as well as the assumptions tests that were carried out were reported.

Table 11

2016 Levene's Test for Equality of Variances

		Levene's Test for Equality of Variances	
		<i>F</i>	<i>Sig.</i>
3 RD -GRADE ELA	Equal variances assumed	1.404	.237
3 RD -GRADE MATH	Equal variances assumed	1.241	.266
4 TH -GRADE ELA	Equal variances assumed	1.840	.176
4 TH -GRADE MATH	Equal variances assumed	1.218	.270
5 TH -GRADE ELA	Equal variances assumed	3.754	.053
5 TH -GRADE MATH	Equal variances assumed	2.193	.139

Table 12

2017 Levene's Test for Equality of Variances

		Levene's Test for Equality of Variances	
		<i>F</i>	<i>Sig.</i>
3 RD -GRADE ELA	Equal variances assumed	13.129	.000
3 RD -GRADE MATH	Equal variances assumed	2.165	.142
4 TH -GRADE ELA	Equal variances assumed	2.383	.123
4 TH -GRADE MATH	Equal variances assumed	4.754	.030
5 TH -GRADE ELA	Equal variances assumed	4.916	.027
5 TH -GRADE MATH	Equal variances assumed	1.450	.229

Table 13

2018 Levene's Test for Equality of Variances

		Levene's Test for Equality of Variances	
		<i>F</i>	<i>Sig.</i>
3 RD -GRADE ELA	Equal variances assumed	7.033	.008
3 RD -GRADE MATH	Equal variances assumed	.519	.471
4 TH -GRADE ELA	Equal variances assumed	7.939	.005
4 TH -GRADE MATH	Equal variances assumed	4.896	.027
5 TH -GRADE ELA	Equal variances assumed	6.228	.013
5 TH -GRADE MATH	Equal variances assumed	5.900	.016

Table 14

2019 Levene's Test for Equality of Variances

		Levene's Test for Equality of Variances	
		<i>F</i>	<i>Sig.</i>
3 RD -GRADE ELA	Equal variances assumed	7.884	.005
3 RD -GRADE MATH	Equal variances assumed	3.340	.068
4 TH -GRADE ELA	Equal variances assumed	.897	.344
4 TH -GRADE MATH	Equal variances assumed	.005	.941
5 TH -GRADE ELA	Equal variances assumed	7.662	.006
5 TH -GRADE MATH	Equal variances assumed	12.338	.000

Results

Research Question 1:

RQ1: What is the difference between student achievement in English Language Arts (ELA) and math in Grades 3-5 as measured by the Missouri Assessment Program (MAP) between districts that used the Network for Educator Effectiveness (NEE) evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced?

Null Hypothesis 1:

H₀1: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced.

For statistical significance to be recognized during independent-samples *t* tests the value of *p* was .05% or lower. Research Question 1A-F compared ELA and Math student achievement percentages according to the MAP in districts that used the NEE evaluation process and those that did not for the school year of 2015-2016 in Grades 3-5. Tables 16,

18, and 20 present the independent-samples *t* test data for Research Question 1A-F. There were between 232 and 235 NEE districts during the 2015-2016 school year and 247-251 districts that did not implement the NEE evaluation process depending on district grade level enrollment at the time the MAP was administered (see Tables 15, 17, and 19). After running an independent-samples *t* test to identify whether a statistically significant difference existed, a few outliers were identified on the boxplot. However, the number of outliers was small enough where there was not a statistically significant impact on the data. According to the Shapiro-Wilk test of normality, see Table 7, a normal distribution occurred ($p > .05$) and the assumption of homogeneity was addressed as Levene's Test for Equality of Variances was less than .05 for each grade level; see Table 11.

Table 15

2016 3rd-Grade Group Statistics

	2016 NEE District or Not	<i>N</i>	Mean	Std. Deviation	Std. Error Mean
3 RD -GRADE ELA	Yes	233	.59019	.157360	.010309
	No	249	.57973	.167705	.010628
3 RD -GRADE MATH	Yes	232	.50949	.162279	.010654
	No	247	.47891	.182661	.011622

Table 16

2016 3rd-Grade Independent Samples t Tests

	<i>t</i> Test for Equality of Means						
	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	Mean Difference	Std. Error Difference	<u>95% <i>CI</i></u> <i>LL</i> <i>UL</i>	
3 RD -GRADE ELA	-.705	480	.481	-.010458	.014838	-.039613	.018697
3 RD -GRADE MATH	.390	479	.697	.030929	.079339	-.124965	.186824

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

**p* < .05, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **1A**, 2016 3rd-Grade **ELA**, districts that implemented the NEE evaluation process (*N* = 233, *M* = .59019, *SD* = .157360) had no significant difference when compared to non-NEE districts (*N* = 249, *M* = .57973, *SD* = .167705) by a difference of -.010458 (95% *CI*, -.039613 to .018697), *t*(480) = -.705, *p* < .481. A slight negative effect size existed with Cohen's *d* = (0.59019 - 0.57973) / 0.162615 = 0.064324. The null hypothesis (*H*₀₁ A) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **1B**, 2016 3rd-Grade **Math**, districts that implemented the NEE evaluation process (*N*=232, *M*=.50949, *SD*=.162279) had no significant difference when compared to non-NEE districts (*N*=247, *M*=.47891, *SD*=.182661) by a difference of -.030929 (95% *CI*, -.124965 to .186824), *t*(479) = .390, *p* = .697. A slight negative effect size existed with Cohen's *d* = (0.47891 - 0.162279) / 0.382717 = 0.827323. The null hypothesis (*H*₀₁ B) failed to be rejected.

Table 17

2016 4th-Grade Group Statistics

	2016 NEE District		<i>N</i>	Mean	Std. Deviation	Std. Error Mean
	or Not					
4 TH -GRADE ELA	Yes		235	.61531	.132984	.008675
	No		251	.60967	.157033	.009912
4 TH - GRADE MATH	Yes		235	.48491	.190778	.012445
	No		251	.48215	.202612	.012789

Table 18

*2016 4th-Grade Independent Samples *t* Tests*

<i>t</i> Test for Equality of Means							
	<i>t</i>	<i>df</i>	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% <i>CI</i>	
						<i>LL</i>	<i>UL</i>
4 TH -GRADE ELA	-.426	484	.670	-.005646	.013244	-.031668	.020377
4 TH -GRADE MATH	-.155	484	.877	-.002763	.017880	-.037895	.032369

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

**p* < .05, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question 1C, 2016 4th Grade **ELA**, districts that implemented the NEE evaluation process (*N* = 235, *M* = .61531, *SD* = .132984) had no significant difference when compared to non-NEE districts (*N* = 251, *M* = .60967, *SD* = .157033) by a difference of -.005646 (95% *CI*, -.031668 to .020377), *t*(484) = -.426, *p* < .670. A slight negative effect size existed with Cohen's *d* = (0.60967 - 0.61531)/0.145506 = 0.038761. The null hypothesis (*H*₀1 C) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the

achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **1D**, 2016 4TH Grade **Math**, districts that implemented the NEE evaluation process ($N = 235$, $M = .48491$, $SD=.190778$) had no significant difference when compared to non-NEE districts ($N = 251$, $M = .48215$, $SD=.202612$) by a difference of $-.002763$ (95% *CI*, $-.037895$ to $.032369$), $t(484) = -.155$, $p < .877$. A slight negative effect size existed with Cohen's $d = (0.48215 - 0.48491)/0.196784 = 0.014026$. The null hypothesis (H_0 1 D) failed to be rejected.

Table 19

2016 5th-Grade Group Statistics

	2016 NEE District		<i>N</i>	Mean	Std. Deviation	Std. Error Mean
	or Not					
5 TH -GRADE ELA	Yes		233	.59323	.140245	.009188
	No		250	.59131	.161581	.010219
5 TH -GRADE MATH	Yes		233	.41903	.177480	.011627
	No		250	.40607	.196258	.012412

Table 20

*2016 5th-Grade Independent Samples *t* Tests*

	<i>t</i> Test for Equality of Means						
	<i>t</i>	<i>df</i>	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% <i>CI</i>	
						<i>LL</i>	<i>UL</i>
5 TH -GRADE ELA	-.139	481	.890	-.001915	.013811	-.029052	.025221
5 TH -GRADE MATH	-.759	481	.448	-.012962	.017068	-.046499	.020575

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.
* $p < .05$, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation

process and those that did not. For Research Question **1E**, 2016 5TH Grade **ELA**, districts that implemented the NEE evaluation process ($N = 233, M = .59323, SD = .140245$) had no significant difference when compared to non-NEE districts ($N = 250, M = .59131, SD = .161581$) by a difference of $-.001915$ (95% *CI*, $-.029052$ to $.025221$), $t(481) = -.139, p < .890$. A slight negative effect size existed with Cohen's $d = (0.59131 - 0.59323)/0.15129 = 0.012691$. The null hypothesis (H_0 1 E) failed to be rejected.

An independent t test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **1F**, 2016 5TH Grade **MATH**, districts that implemented the NEE evaluation process ($N = 233, M = .41903, SD = .177480$) had no significant difference when compared to non-NEE districts ($N=250, M=.40607, SD=.196258$) by a difference of $-.012962$ (95% *CI*, $-.046499$ to $.020575$), $t(481), -.759, p < .448$. A slight negative effect size existed with Cohen's $d = (0.40607 - 0.41903)/0.187105 = 0.069266$. The null hypothesis (H_0 1 F) failed to be rejected.

Research Question 2:

RQ2: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2016-2017 as measured by the percentage sum of students achieving proficient and advanced?

Null Hypothesis 2:

H_0 2: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2016-2017 as measured by the percentage of

students achieving proficient and advanced.

For statistical significance to be recognized during independent-samples *t* tests the value of *p* was .05% or lower. Research Question 2A-F compared ELA and Math student achievement percentages according to the MAP in districts that used the NEE evaluation process and those that did not for the school year of 2016-2017 in Grades 3-5. Tables 22, 24, and 26 present the independent-samples *t* test data for Research Question 2A-F. There were between 238 and 243 NEE districts during the 2016-2017 school year and 240-251 districts that did not implement the NEE evaluation process depending on district grade level enrollment at the time the MAP was administered (see Tables 21, 23, and 25). After running an independent-samples *t* test to identify whether a statistically significant difference existed, a few outliers were identified on the boxplot. However, the number of outliers was small enough where there was not a statistically significant impact on the data. According to the Shapiro-Wilk test of normality, see Table 8, a normal distribution occurred ($p > .05$) and the assumption of homogeneity was addressed as Levene’s Test for Equality of Variances were less than .05 for each grade level, see Table 12.

Table 21

2017 3rd-Grade Group Statistics

	2017 NEE		N	Mean	Std. Deviation	Std. Error Mean
	District or Not					
3 RD -GRADE ELA	Yes		243	.59623	.133382	.008556
	No		240	.60268	.170184	.010985
3 RD -GRADE MATH	Yes		243	.50960	.165799	.010636
	No		244	.51680	.191300	.012247

Table 22

2017 3rd Grade Independent Samples t Tests

	<i>t</i> Test for Equality of Means						
	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	Mean Difference	Std. Error Difference	<u>95% <i>CI</i></u>	
						<i>LL</i>	<i>UL</i>
3 RD -GRADE ELA	1.945	487	.052	.589993	.303339	-.006022	1.186007
3 RD -GRADE MATH	1.032	486	.303	.184640	.178898	-.166869	.536149

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

**p* < .05, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **2A**, 2017 3rd Grade **ELA**, districts that implemented the NEE evaluation process ($N = 243$, $M = .59623$, $SD = .133382$) had no significant difference when compared to non-NEE districts ($N = 240$, $M = .60268$, $SD = .170184$) by a difference of .589993 (95% *CI*, -.006022 to 1.186007), $t(487) = 1.945$, $p < .052$. A slight negative effect size existed with Cohen's $d = (0.60268 - 0.59623)/0.15513 = 0.041578$. The null hypothesis (H_0 2 A) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **2B**, 2017 3rd Grade **Math**, districts that implemented the NEE evaluation process ($N = 243$, $M = .50960$, $SD = .165799$) had no significant difference when compared to non-NEE districts ($N = 244$, $M = .51680$, $SD = .191300$) by a difference of .184640 (95% *CI*, -.166869 to .536149), $t(486) = 1.032$, $p < .303$. A slight negative effect size existed with Cohen's $d = (0.5168 - 0.5096)/0.179004 =$

0.040223. The null hypothesis (H₀2 B) failed to be rejected.

Table 23

2017 4th-Grade Group Statistics

	2017 NEE		N	Mean	Std. Deviation	Std. Error Mean
	District or Not					
4 TH -GRADE ELA	Yes		240	.62298	.150766	.009732
	No		245	.61213	.160234	.010237
4 TH -GRADE MATH	Yes		240	.51701	.179396	.011580
	No		245	.49581	.200074	.012782

Table 24

2017 4th Grade Independent Samples t Tests

	<i>t</i> Test for Equality of Means						
	<i>t</i>	<i>df</i>	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% CI	
						<i>LL</i>	<i>UL</i>
4 TH -GRADE ELA	-.768	483	.443	-.010857	.014134	-.038628	.016914
4 TH -GRADE MATH	1.228	483	.220	-.021200	.017267	-.055128	.012728

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

**p* < .05, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **2C**, 2017 4TH Grade **ELA**, districts that implemented the NEE evaluation process (*N* = 240, *M* = .62298, *SD* = .150766) had no significant difference when compared to non-NEE districts (*N* = 245, *M* = .61213, *SD* = .160234) by a difference of -.010857 (95% *CI*, -.038628 to .016914), *t*(483) = -.768, *p* < .443. A slight negative effect size existed with Cohen's *d* = (0.61213 - 0.62298)/0.155572 = 0.069743. The null hypothesis (H₀2 C) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **2D**, 2017 4TH Grade **MATH**, districts that implemented the NEE evaluation process ($N = 240$, $M = .51701$, $SD=.179396$) had no significant difference when compare to non-NEE districts ($N = 245$, $M = .49581$, $SD = .200074$) by a difference of $-.021200$ (95% *CI*, $-.055128$ to $.012728$), $t(483) = -1.228$, $p < .220$. A slight negative effect size existed with Cohen's $d = (0.49581 - 0.51701) / 0.190016 = 0.111569$. The null hypothesis (H_0 2 D) failed to be rejected.

Table 25

2017 5th-Grade Group Statistics

	2017		<i>N</i>	Mean	Std. Deviation	Std. Error Mean
	NEE District or Not					
5 TH -GRADE ELA	Yes		238	.60417	.135881	.008808
	No		251	.58363	.166563	.010513
5 TH -GRADE MATH	Yes		238	.45684	.188283	.012205
	No		251	.41564	.200993	.012687

Table 26

*2017 5th-Grade Independent Samples *t* Tests*

	<i>t</i> Test for Equality of Means						
	<i>t</i>	<i>df</i>	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% <i>CI</i>	
						<i>LL</i>	<i>UL</i>
5 TH -GRADE ELA	1.490	487	.137	-.020547	.013789	-.047640	.006546
5 TH -GRADE MATH	-2.336	487	.020	-.041195	.017635	-.075844	-.006545

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

* $p < .05$, two-tailed.

An independent t test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **2E**, 2017 5TH Grade **ELA**, districts that implemented the NEE evaluation process ($N = 238$, $M = .60417$, $SD = .135881$) had no significant difference when compared to non-NEE districts ($N = 251$, $M = .58363$, $SD = .166563$) by a difference of $-.020547$ (95% CI , $-.047640$ to $.006546$), $t(487) = -1.490$, $p < .137$. A slight negative effect size existed with Cohen's $d = (0.58363 - 0.60417)/0.151998 = 0.135133$. The null hypothesis (H_0 2 E) failed to be rejected.

An independent t test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **2F**, 2017 5TH Grade **Math**, districts that implemented the NEE evaluation process ($N = 238$, $M = .45684$, $SD = .188283$) had a significant difference when compare to non-NEE districts ($N = 251$, $M = .41564$, $SD=.200993$) by a statistically significant difference of $-.041195$ (95% CI , $-.075844$ to $.006545$), $t(487) = -2.336$, $p < .020$. A slight negative effect size existed with Cohen's $d = (0.41564 - 0.45684)/0.194742 = 0.211562$. The null hypothesis (H_0 2 F) was rejected.

Research Question 3:

RQ3: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2017-2018 as measured by the percentage sum of students achieving proficient and advanced?

Null Hypothesis 3:

H₀3: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2017-2018 as measured by the percentage of students achieving proficient and advanced.

For statistical significance to be recognized during independent-samples *t* tests, the value of *p* was .05% or lower. Research Question 3A-F compared ELA and Math student achievement percentages according to the MAP in districts that used the NEE evaluation process and those that did not for the school year of 2017-2018 in Grades 3-5. Tables 28, 30, and 32 present the independent-samples *t* test data for Research Question 3A-F. There were 236-237 NEE districts during the 2017-2018 school year and 251-256 districts that did not implement the NEE evaluation process depending on district grade level enrollment at the time the MAP was administered (see Tables 27, 29, and 31). After running an independent-samples *t* test to identify whether a statistically significant difference existed, a few outliers were identified on the boxplot. However, the number of outliers was small enough where there was not a statistically significant impact on the data. According to the Shapiro-Wilk test of normality, see Table 9, a normal distribution occurred ($p > .05$) and the assumption of homogeneity was addressed as Levene's Test for Equality of Variances was less than .05 for each grade level; see Table 13.

Table 27

2018 3rd-Grade Group Statistics

	2018 NEE		Mean	Std. Deviation	Std. Error
	District or	<i>N</i>			
3 RD -GRADE ELA	Yes	236	.45739	.145563	.009475
	No	256	.46201	.172886	.010805
3 RD -GRADE MATH	Yes	236	.44286	.167596	.010910
	No	255	.44441	.181509	.011367

Table 28

*2018 3rd-Grade Independent Samples *t* Tests*

	<i>t</i> Test for Equality of Means					
	<i>t</i>	<i>df</i>	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% <i>CI</i> <i>LL</i> <i>UL</i>
3 RD -GRADE ELA	.319	490	.750	.004618	.014472	-.023816 .033052
3 RD -GRADE MATH	.098	489	.922	.001547	.015804	-.029504 .032599

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

**p* < .05, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **3A**, 2018 3rd Grade **ELA**, districts that implemented the NEE evaluation process (*N* = 236, *M* = .45739, *SD* = .145563) had no significant difference when compared to non-NEE districts (*N* = 256, *M* = .46201, *SD* = .172886) by a difference of .004618 (95% *CI*, -.023816 to .033052), *t*(490) = .319, *p* < .750. A slight negative effect size existed with Cohen's *d* = (0.46201 - 0.45739)/0.15981 = 0.028909. The null hypothesis (*H*₀3 A) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **3B**, 2018 3rd Grade **Math**, districts that implemented the NEE evaluation process ($N = 236, M = .44286, SD = .167596$) had no significant difference when compared to non-NEE districts ($N = 255, M = .44441, SD = .181509$) by a difference of .001547 (95% *CI*, -.029504 to .032599), $t(489) = .098, p < .922$. A slight negative effect size existed with Cohen's $d = (0.44441 - 0.44286)/0.174691 = 0.008873$. The null hypothesis (H_0 3 B) failed to be rejected.

Table 29

2018 4th-Grade Group Statistics

	2018 NEE		Mean	Std. Deviation	Std. Error Mean
	District or Not	<i>N</i>			
4 TH -GRADE ELA	Yes	237	.45788	.150100	.009750
	No	254	.45552	.176888	.011099
4 TH -GRADE MATH	Yes	237	.42100	.176409	.011459
	No	254	.42093	.197579	.012397

Table 30

*2018 4th-Grade Independent Samples *t* Tests*

	<i>t</i> Test for Equality of Means					
	<i>t</i>	<i>df</i>	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% <i>CI</i> <i>LL</i> <i>UL</i>
4 TH -GRADE ELA	-.159	489	.874	-.002358	.014857	-.031550 .026833
4 TH -GRADE MATH	-.004	489	.997	-.000071	.016948	-.033371 .033229

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

* $p < .05$, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **3C**, 2018 4th Grade **ELA**, districts that implemented the NEE evaluation process ($N = 237, M = .45788, SD = .150100$) had no significant difference when compared to non-NEE districts ($N = 254, M = .45552, SD = .176888$) by a difference of $-.002358$ (95% *CI*, $-.031550$ to $.026833$), $t(489) = -.159, p < .874$. A slight negative effect size existed with Cohen's $d = (0.45552 - 0.45788)/0.164042 = 0.014387$. The null hypothesis ($H_03 C$) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **3D**, 2018 4th Grade **Math**, districts that implemented the NEE evaluation process ($N = 237, M = .42100, SD = .176409$) had no significant difference when compared to non-NEE districts ($N = 254, M = .42093, SD = .197579$) by a difference of $-.000071$ (95% *CI*, $-.033371$ to $.033229$), $t(489) = -.004, p < .997$. A slight negative effect size existed with Cohen's $d = (0.42093 - 0.42100)/0.187293 = 0.000374$. The null hypothesis ($H_03 D$) failed to be rejected.

Table 31

2018 5th-Grade Group Statistics

	2018 NEE		Mean	Std. Deviation	Std. Error Mean
	District or Not	<i>N</i>			
5 TH -GRADE ELA	Yes	237	.44000	.131409	.008536
	No	251	.41892	.164123	.010359
5 TH -GRADE MATH	Yes	237	.35845	.166216	.010797
	No	251	.36178	.193470	.012212

Table 32

2018 5th-Grade Independent Samples t Tests

	<i>t</i> Test for Equality of Means						
	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	Mean Difference	Std. Error Difference	<u>95% <i>CI</i></u>	
						<i>LL</i>	<i>UL</i>
5 TH -GRADE ELA	-1.561	486	.119	-.021079	.013508	-.047620	.005461
5 TH -GRADE MATH	.203	486	.839	.003329	.016371	-.028837	.035496

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

**p* < .05, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **3E**, 2018 5th Grade **ELA**, districts that implemented the NEE evaluation process ($N = 237$, $M = .44000$, $SD = .131409$) had a slight negative difference when compared to non-NEE districts ($N = 251$, $M = .41892$, $SD = .164123$) by no significant difference of $-.021079$ (95% *CI*, $-.047620$ to $.005461$), $t(486) = -1.561$, $p < .119$. A slight negative effect size existed with Cohen's $d = (0.41892 - 0.44000)/0.148669 = 0.141792$. The null hypothesis (H_{03E}) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **3F**, 2018 5th Grade **Math**, districts that implemented the NEE evaluation process ($N = 237$, $M = .35845$, $SD = .166216$) had no significant difference when compared to non-NEE districts ($N = 251$, $M = .36178$, $SD = .193470$) by a difference of $.003329$ (95% *CI*, $-.028837$ to $.035496$), $t(486) = .203$, $p <$

.839. A slight negative effect size existed with Cohen's $d = (0.36178 - 0.35845)/0.180359 = 0.018463$. The null hypothesis (H_0) failed to be rejected.

Research Question 4:

RQ4: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2018-2019 as measured by the percentage sum of students achieving proficient and advanced?

Null Hypothesis 4:

H_0 4: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2018-2019 as measured by the percentage of students achieving proficient and advanced.

For statistical significance to be recognized during independent-samples t tests the value of p was .05% or lower. Research Question 4A-F compared ELA and Math student achievement percentages according to the MAP in districts that used the NEE evaluation process and those that did not for the school year of 2018-2019 in Grades 3-5. Tables 34, 36, and 38 present the independent samples t test data for Research Question 4A-F. There were 238-247 NEE districts during the 2018-2019 school year and 238-244 districts that did not implement the NEE evaluation process depending on district grade level enrollment at the time the MAP was administered, see Tables 33, 35, and 37. After running an independent samples t test to identify whether a statistically significant difference existed, a few outliers were identified on the boxplot. However, the number of outliers was small enough where there was not a statistically significant impact on the

data. According to the Shapiro-Wilk test of normality; see Table 10, a normal distribution occurred ($p > .05$) and the assumption of homogeneity was addressed as Levene's Test for Equality of Variances was less than .05 for each grade level; see Table 14.

Table 33

2019 3rd-Grade Group Statistics

	2019 NEE		Mean	Std. Deviation	Std. Error
	District or	<i>N</i>			
3 RD -GRADE ELA	Yes	244	.44890	.146774	.009396
	No	238	.46712	.179561	.011639
3 RD -GRADE MATH	Yes	243	.42752	.172760	.011083
	No	238	.43776	.194113	.012582

Table 34

*2019 3rd-Grade Independent Samples *t* Tests*

	<i>t</i> Test for Equality of Means						
	<i>t</i>	<i>df</i>	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% <i>CI</i>	
						<i>LL</i>	<i>UL</i>
3 RD -GRADE ELA	1.221	480	.223	.018224	.014922	-.011095	.047544
3 RD -GRADE MATH	.611	479	.541	.010234	.016747	-.022673	.043140

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

* $p < .05$, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **4A**, 2019 3rd Grade **ELA**, districts that implemented the NEE evaluation process ($N = 244$, $M = .44890$, $SD = .146774$) had no significant difference when compared to non-NEE districts ($N = 238$, $M = .46712$, $SD = .179561$) by a difference of .018224 (95% *CI*, -.011095 to .047544), $t(480) = 1.221$, p

< .223. A slight negative effect size existed with Cohen's $d = (0.46712 - 0.4489)/0.163989 = 0.111105$. The null hypothesis ($H_04 A$) failed to be rejected.

An independent t test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **4B**, 2019 3rd Grade **Math**, districts that implemented the NEE evaluation process ($N = 243, M = .42752, SD = .172760$) had no significant difference when compared to non-NEE districts ($N = 238, M = .43776, SD = .194113$) by a difference of .010234 (95% $CI, -.022673$ to $.043140$), $t(479) = .611, p < .541$. A slight negative effect size existed with Cohen's $d = (0.43776 - 0.42752)/0.183747 = 0.055729$. The null hypothesis ($H_04 B$) failed to be rejected.

Table 35

2019 4th-Grade Group Statistics

	2019 NEE		Mean	Std. Deviation	Std. Error
	District or Not	N			
4 TH -GRADE ELA	Yes	247	.44374	.153492	.009766
	No	243	.46915	.166712	.010695
4 TH -GRADE MATH	Yes	247	.44386	.182417	.011607
	No	243	.43607	.183845	.011794

Table 36

2019 4th-Grade Independent Samples t -Tests

	t Test for Equality of Means						
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI	
						LL	UL
4 TH -GRADE ELA	1.756	488	.080	.025411	.014473	-.003026	.053849
4 TH -GRADE MATH	-.470	488	.638	-.007784	.016546	-.040295	.024726

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

* $p < .05$, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **4C**, 2019 4th Grade **ELA**, districts that implemented the NEE evaluation process ($N = 247$, $M = .44374$, $SD = .153492$) had no significant difference when compared to non-NEE districts ($N = 243$, $M = .46915$, $SD = .166712$) by a difference of .025411 (95% *CI*, -.003026 to .053849), $t(488) = 1.756$, $p < .080$. A slight negative effect size existed with Cohen's $d = (0.46915 - 0.44374)/0.160238 = 0.158576$. The null hypothesis (H_0 4 C) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **4D**, 2019 4th Grade **Math**, districts that implemented the NEE evaluation process ($N = 247$, $M = .44386$, $SD = .182417$) had no significant difference when compared to non-NEE districts ($N = 243$, $M = .43607$, $SD = .183845$) by a difference of -.007784 (95% *CI*, -.040295 to .024726), $t(488) = -.470$, $p < .638$. A slight negative effect size existed with Cohen's $d = (0.43607 - 0.44386)/0.183132 = 0.042538$. The null hypothesis (H_0 4 D) failed to be rejected.

Table 37

2019 5th-Grade Group Statistics

	2019 NEE		Mean	Std. Deviation	Std. Error Mean
	District or Not	<i>N</i>			
5 TH -GRADE ELA	Yes	241	.42690	.138364	.008913
	No	244	.43766	.162901	.010429
5 TH -GRADE MATH	Yes	241	.35039	.165884	.010686
	No	244	.36586	.202924	.012991

Table 38

*2019 5th-Grade Independent Samples *t* Tests*

	<i>t</i> Test for Equality of Means						
	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	Mean Difference	Std. Error Difference	95% <i>CI</i>	
						<i>LL</i>	<i>UL</i>
5 TH -GRADE ELA	.783	483	.434	.010755	.013732	-.016227	.037737
5 TH -GRADE MATH	.918	483	.359	.015462	.016842	-.017630	.048554

Note. *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

**p* < .05, two-tailed.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **4E**, 2019 5th Grade **ELA**, districts that implemented the NEE evaluation process ($N = 241$, $M = .42690$, $SD = .138364$) had no significant difference when compare to non-NEE districts ($N = 244$, $M = .43766$, $SD = .162901$) by a difference of .010755 (95% *CI*, -.016227 to .037737), $t(483) = .783$, $p < .434$. A slight negative effect size existed with Cohen's $d = (0.43766 - 0.4269)/0.151131 = 0.071196$. The null hypothesis (H_0 4 E) failed to be rejected.

An independent *t* test was run to determine if there was a difference in the achievement scores of students within districts that implemented the NEE evaluation process and those that did not. For Research Question **4F**, 2019 5th Grade **Math**, districts that implemented the NEE evaluation process ($N=241$, $M=.35039$, $SD=.165884$) had no significant difference when compared to non-NEE districts ($N = 244$, $M = .36586$, $SD = .202924$) by a difference of .015462 (95% *CI*, -.017630 to .048554), $t(483) = .918$, $p <$

.359. A slight negative effect size existed with Cohen's $d = (0.36586 - 0.35039) / 0.185332 = 0.083472$. The null hypothesis (H_0) failed to be rejected.

Summary

Chapter Four conveyed a data analysis and the study findings. Presented in Chapter Four were the research questions as well as the null hypothesis. A description of the samples and the results of the independent samples t tests were shared. Every null hypothesis was accepted or rejected based on whether a statically significant difference was found. If the effect size was not statistically significant the null hypotheses was accepted. If the effect size was statistically significant the null hypothesis was rejected. Each effect size was calculated using Cohen's d to determine the difference. Chapter Five includes a detailed interpretation of the results, an analysis, a synthesis of the research findings, and recommendations for future studies.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

According to research, one of the predictors of student achievement is teacher quality (Clotfelter et al., 2007; Ladd & Sorensen, 2017; Nye et al., 2004; Rice, 2013; Rivkin et al., 2005). The level of teacher quality can be improved through a process of thoughtful interaction about the practice of teaching in meaningful professional discussions between the teacher and principal. This study proposed that one of the ways administrators can facilitate this shift in teacher quality is through the educator evaluation process. The purpose of this quantitative causal-comparative study was to identify whether there was a difference in student achievement in ELA and math in districts that had implemented the NEE educator evaluation process and those that had not. The Southwest Baptist University Research Review Board (RRB) granted permission to conduct this study in March of 2020. An analysis of the quantitative data took place utilizing SPSS software. Independent sample *t* tests were conducted to identify whether a statistically significant differences existed. As a result of the independent samples *t* test each null hypothesis was either rejected or not rejected.

Research states that the effectiveness of the adult in the classroom, the teacher, is the single-most critical influence on student achievement (Strahan, 2013). The influence of the adult ranks above socioeconomic status, race, home life, and parental involvement (Strahan, 2013). Research shows that the higher the level of teacher efficacy, the greater the impact on student achievement (Donohoo, 2017). These factors combine to create an environment where teachers can be effective. Teacher effectiveness can be increased as the process of constructing knowledge through the educator evaluation process transpires.

The theories that informed this study, the theories of andragogy, the study of how adults learn; constructivism, how we process information and make sense of our own understanding; and metacognition, thinking about our own thinking, are critical in education as the adult in the classroom, the teacher, is the single-most critical influence on student achievement.

The NEE educator evaluation process was developed by the University of Missouri in response to state mandates. The NEE educator evaluation process rubric consists of 38 specific performance indicators aligned to Missouri Educator Evaluation mandates. The mandates utilized the work of multiple professional development experts in the area of assessment by measuring practice, giving intensive support for probationary teachers, analyzing student performance, and highlighting the importance of quality feedback (Chick, n.d.; Flavell, 1979; Knowles, 1968, 1970, 1975, 1980; University City, 2017; Vygotsky, 1962, 2016). The NEE educator evaluation process emphasizes the need to facilitate teacher growth, develop teacher effectiveness, and create learning-centered cultures. A critical component of the NEE educator evaluation process is the online platform that provides administrators immediate access to high-level professional development resources to aid in the development of teacher quality that are tied to the 38 performance indicators.

In Chapter Five a summary of the findings will be presented. The summary will include a discussion about findings as they connect to the research questions and theoretical framework. Professional implications of this study, recommendations for future research, and implications relevant to the field of education will be included.

Research Questions

RQ1: What is the difference between student achievement in English Language Arts (ELA) and math in Grades 3-5 as measured by the Missouri Assessment Program (MAP) between districts that used the Network for Educator Effectiveness (NEE) evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced?

RQ1 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 C - What is the difference between student achievement in **ELA in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 D - What is the difference between student achievement in **math in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 E - What is the difference between student achievement in **ELA in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ1 F - What is the difference between student achievement in **math in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced?

RQ2: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2016-2017 as measured by the percentage sum of students achieving proficient and advanced?

RQ2 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 C - What is the difference between student achievement in **ELA in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and

those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 E - What is the difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ2 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced?

RQ3: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2017-2018 as measured by the percentage sum of students achieving proficient and advanced?

RQ3 A - What is the difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 B - What is the difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 C - What is the difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that do not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 D - What is the difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 E - What is the difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ3 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced?

RQ4: What is the difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation

process and those that did not for the years of 2018-2019 as measured by the percentage sum of students achieving proficient and advanced?

RQ4 A - What is the difference between student achievement in **ELA in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 B - What is the difference between student achievement in **math in Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 C - What is the difference between student achievement in **ELA in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 D - What is the difference between student achievement in **math in Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 E - What is the difference between student achievement in **ELA in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

RQ4 F - What is the difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced?

Null Hypotheses

H₀1: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of 2015-2016 as measured by the percentage sum of students achieving proficient and advanced.

H₀1 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀1 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀₁ E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀₁ F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2015-2016** as measured by the percentage sum of students achieving proficient and advanced.

H₀₂: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2016-2017 as measured by the percentage of students achieving proficient and advanced.

H₀₂ A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀₂ B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀2 F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2016-2017** as measured by the percentage sum of students achieving proficient and advanced.

H₀3: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2017-2018 as measured by the percentage of students achieving proficient and advanced.

H₀3 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀₃ F - There is no statistical difference between student achievement in **math** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2017-2018** as measured by the percentage sum of students achieving proficient and advanced.

H₀4: There is no statistical difference between student achievement in ELA and math in Grades 3-5 as measured by the MAP between districts that used the NEE process and those that did not for the years of 2018-2019 as measured by the percentage of students achieving proficient and advanced.

H₀4 A - There is no statistical difference between student achievement in **ELA** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 B - There is no statistical difference between student achievement in **math** in **Grade 3** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 C - There is no statistical difference between student achievement in **ELA** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 D - There is no statistical difference between student achievement in **math** in **Grade 4** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀4 E - There is no statistical difference between student achievement in **ELA** in **Grade 5** as measured by the MAP between districts that used the NEE evaluation process

and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

H₀₄ F - There is no statistical difference between student achievement in **math in Grade 5** as measured by the MAP between districts that used the NEE evaluation process and those that did not for the years of **2018-2019** as measured by the percentage sum of students achieving proficient and advanced.

Summary of Findings

The overarching question in this study was, what is the difference between student achievement, as measured by students scoring proficient or advanced, in ELA and math in Grades 3-5 as measured by the MAP between districts that implemented the NEE evaluation process and those that did not for the years of 2015-2016, 2016-2017, 2017-2018, and 2018-2019? In order to collect and analyze the data, each research question was divided into subquestions, breaking apart the data according to assessment year, content area, and grade level. For each sub question, an independent samples *t* test was conducted in order to identify whether a statistically significant difference ($p < .05$) existed. According to the findings, there was; one set of MAP scores that showed a statistically significant difference in the percentages of proficient and advanced in the content area of ELA for fifth graders in 2017, $-.041195$ (95% CI, $-.075844$ to $.006545$), $t(487) = -2.336$, $p < .020$. Out of 24 variables included in this study, there was only one variable that showed a statistically significant difference. Fisher, a statistician, determined if the same situation resulted in the same outcome 1 in 20 times it was unique enough to connect statistical significance (Bruce, 2015). Therefore, according to the independent *t* test results for Research Question 2F, a statistically significant difference

was identified.

What makes up an effective educator evaluation system that positively impacts student achievement is still debatable (Grissom & Loeb, 2017). Key components on the impact educator evaluations have on student achievement from the research of Hattie (2016), Danielson and McGreal (2000), Marzano (2003), Donohoo (2017), and Dweck (2012) have been identified and assimilated to create educator evaluation systems. The premise is that if a district implemented a research-based evaluation system, student achievement would be affected. However, data from this study do not indicate that a specific educator evaluation system in the state of Missouri can claim to have a greater impact on student achievement over others. After conducting the study and analyzing the data there was 1 null hypothesis out of 24 with a statistically significant difference between districts that implemented the NEE evaluation process and those that did not for all four years included in this study in either ELA or math in Grades 3-5 as measured by the MAP: see Table 39, 40, 41, and 42.

Discussion

This section discusses how the results of the study correspond or contradict current literature, and how the results deepen our understanding of the relationship between the educator evaluation system and student proficiency levels. The theoretical framework was foundational to the direction of this study and conclusions take into account those frameworks. It was the intent of the researcher to identify whether districts that implemented the NEE educator evaluation process would result in a difference in students scoring proficient and advanced compared to non-NEE districts in ELA and math in third to fifth Grade over a 4-year period. The data showed there was a

statistically significant difference in 1 out of 24 null hypotheses. Student achievement, teacher quality, self-efficacy, andragogy, constructivism, metacognition, and mindset theory will be discussed in relation to the findings from the data.

Research shows that it is very difficult to determine what particular interventions affect student achievement. Improving student achievement is a complex process. After studying the evaluation process, questions arose as to whether an educator evaluation system could truly impact student proficiencies. A principal may be able to observe a teacher and witness how feedback given to a teacher during the educator evaluation process positively impacts student growth within the classroom. However, individual achievement gains in the classroom are not always reflected on a yearly state assessment. As presented in Chapter Two, there are multiple ways researchers define student achievement. Some researchers say that student achievement is about developing cognitive skills that lead towards learning goals (Guskey, 2013), while others note that achievement is about a student's capacity to understand content enough to share their knowledge (Haines & Mueller, 2013). Regardless of the definition, schools tend to measure student achievement based on a level of mastery in the content areas of ELA, math, science, and social studies, as scored on a yearly standardized assessment (Ballafkih & Van Middelkoop, 2019).

One of the critical predictors of student achievement is teacher quality (Clotfelter et al., 2007; Ladd & Sorensen, 2017; Nye et al., 2004; Rice, 2013; Rivkin et al., 2005). As stated in Chapter One, Missouri focused on increasing the amount of highly qualified educators through a more effective educator evaluation system (MODESE, 2011), with the aspiration that student achievement would be positively impacted. We also know that

one of the ways teacher quality is heightened is through an effective and meaningful feedback system. It was the belief of the researcher that the educator evaluation process can be a way to provide effective feedback, if the evaluation system includes a strong focus on the quality of the feedback. Interpretation of the data results might include whether the NEE educator evaluation process has a strong enough focus on effective feedback. While this is not a program review, the discussion about why the results only showed 1 null hypothesis out of 24 with any significant statistical difference in student proficiency levels is a topic for ongoing dialogue.

Another essential variable of teacher quality is the level of self-efficacy of the teacher, or one's belief they can be successful at a certain task (Bandura, as cited in Johnson, Perlow, & Pieper, 1993). While some teachers make the connection that the evaluation system is a dynamic learning opportunity, others see it as a meaningless process that feels like simply going through the motions. When teachers have a high level of self-efficacy, as stated in Chapter Two, they benefit from processes within the school that emphasize conversation, feedback, and the development of self-directed goals rather than self-doubt, which can lead to diffidence.

The process of evaluating and collaboratively studying classroom observation data provides feedback to the teacher and opens up an avenue for a deep level of metacognition. According to Flavell (1979), the theory of metacognition is defined as "thinking about thinking" (p. 906). Chick (n.d.) expanded the definition of metacognition as "the process used to plan, monitor, and assess one's understanding and performance" (p. 1). Rather than thinking about what is happening in the moment, metacognition involves thinking about what a person has experienced in a way that is thoughtful,

deliberate, intentional, goal directed, and future oriented (Hacker, Dunlosky, & Graesser, 1998). As adult learners use metacognition, or reflect on experiences, they develop the capacity for self-direction, self-improvement, and self-efficacy. A well-constructed evaluation system that includes key components is said to have an impact on teacher performance, which could result in improved student achievement (Darling-Hammond, 2013). The focus on metacognition may be a critical component missing during implementation of the evaluation process. There may not be enough deep-level thinking taking place, honoring adult learning theory and promoting increased cognitive awareness.

As previously stated, a critical component of both adult and student learning is mindset theory, where the emphasis is placed on having a growth mindset. Dweck's (2012) mindset theory came about from decades of research on why some people persevere and seek challenges, while others avoid challenges and concede defeat easily (DeWitt, 2015; Dweck, 2012; Gerstein, 2014; Schraer, 2014; Young, 2019). A mindset is defined as the established set of attitudes held by someone. A fixed mindset occurs when an individual believes their intellectual level and cognitive abilities are innate or fixed. A growth mindset occurs when an individual believes their intellectual level and cognitive abilities are changeable and they tend to take on challenges and view mistakes as part of the learning process (Gerstein, 2014). Throughout the evaluation process, the administrator's mindset needs to be that of a coach with the belief that through effective feedback the facilitation of change can take place (Gerstein, 2014). The teacher's mindset must be open to feedback that could in turn bring about change in practice (Couros, 2018). The lack of significant findings may reflect an absence of growth mindset.

If an instructional leader can influence others through relationships and interpersonal skills rather than through positional authority, change is more likely to happen (Insights From Leaders, 2009). The level of support from administration impacts the rate and quality of teacher growth. Toch (2008) stated that principals need to utilize the teacher evaluation process to motivate and improve instructional practice. Key researchers (Danielson & McGreal, 2000; Darling-Hammond, 2013; Silverberg & Jungwirth, 2014) have concurred that what is essential in teacher evaluations is “not the evaluation instrument, but the evaluation process, particularly the communication between the evaluator and the teacher that will determine whether or not evaluation supports growth and learning” (Dolcemascolo et al., n.d., p. 1).

Professional Implications

The evaluation process provides an opportunity for conversation and reflection. It is the objective of Missouri education evaluation reform to improve teacher quality through collaboration and frequent observations with specific, timely, quantifiable, formative feedback. Due to the fact this study was completed, there is an increased awareness as to whether educator evaluations, as they currently are being implemented, may not reach the intended outcome. According to the overall findings of this study, MAP scores did not demonstrate growth in student proficiency levels. This may lead one to believe the NEE evaluation process does not make a difference in student achievement.

At the organizational level, districts purchased or developed their own educator evaluation systems designed as a tool for administrators to facilitate teacher growth in both mindset and pedagogy. In turn, the hope was that student achievement would increase as measured by the MAP (MODESE, 2015). Due to the findings of this study,

districts need to be aware of the responsibility to develop procedures that monitor the evaluation process and assess whether the current process leads to the intended results. Based on this information, the district would then decide whether other evaluation models should be examined. Additionally, professional development of the evaluation process must continually be a topic of conversation to ensure fidelity across the system.

One of the ways this study can inform the practice of teachers and administrators in the evaluation process is through the understanding of the power of feedback that will enhance the professional development of educators. NEE requires frequent and timely feedback through an online platform where administrators and teachers can access real-time data. In addition to immediate digital feedback, there is also an opportunity for administrators and teachers to have face to face, in-depth, reflective conversations. According to this study, even with these measures in place, there was little evidence of any difference in student achievement. However, despite these findings, educators need to remain aware that there is an abundance of research that shows those collaborative conversations between a teacher and evaluator help move a teacher forward and improve teacher quality (Clotfelter et al., 2007; Danielson & McGreal, 2000; Hattie, 2007, 2016; Hill & Grossman, 2013; Ladd & Sorensen, 2015; LeFlock, Garcia, & Barbour, 2016; Marzano, 2003; Mathis, 2013; Nye et al., 2004; Rice 2003, 2013; Rivkin, et al., 2005).

School administrators can use the findings of this study to guide instructional leadership of the building. The NEE online platform should be utilized as a resource for administrators to provide instant access to professional development for teachers. For the NEE evaluation process to be effective, all components would need to be implemented as intended. Whether intentional or unintentional, some administrators leave out key

components of the implementation process. Intentionally, administrators may view evaluations as a formality and disregard the impact the process could make ultimately on teacher growth and quality. Unintentionally, administrators have so much they need to focus on that the time necessary to complete an evaluation for every faculty member in the building may not be happening with fidelity. The teachers who appear to have everything together may receive high scores on the evaluation instrument because they look and act the part without student achievement data to support this assumption. Also, teachers who are lacking knowledge of pedagogy may receive high scores because it is easier on the administrator, leading them to believe they are performing at a high level. Due to the findings, school administrators need to be aware of the importance each component bears in the evaluation process.

At the teacher level the results of this study may lead to feelings of discouragement and burnout. Teachers may interpret these results as yet another failed attempt at educational reform. In a situation where an administrator does not implement with fidelity, teachers may choose to either sabotage the process or simply comply. Effective teachers will focus on how their growth as a professional educator can positively impact their students. Benedict et al. (2013) shared when teachers accept feedback and take advantage of professional development opportunities the process can elevate them towards personal mastery and an increase in teacher quality. Feedback about the quality of instruction happening in the classroom, through the teacher evaluation process, can lead to effective professional growth (Papay & Kraft, 2016; Papay et al., 2016; Wiliam, 2012).

Recommendations for Future Research

As research constructs as many new inquiries as responses, it needs to continue to cultivate the desire to investigate best practices in education. This study identified the need to continue development and refinement of the educator evaluation process in order to increase the quality and ultimately impact student achievement. According to this study, results did not identify statistically significant differences in 23 out of 24 null hypotheses between districts that implemented the NEE educator evaluation process and those that did not; simply stated, the NEE educator evaluation system made no difference in the proficient or advanced levels on the MAP in the content areas of ELA and math for third-to fifth-grade students.

Another perspective as a result of this study would be to separate evaluation from any part of teacher growth. Policy and practice currently lean toward all aspects of professional practice being interconnected, with the end result of student achievement. Perhaps the evaluation process should stand alone as a component of the human resource department, rather than being seen as an opportunity for professional development. Stated simply, the teacher is either deemed as meeting expectations, has growth opportunities, or has an area of concern that needs to be addressed (MODESE, 2015). Once the evaluation is completed the principal is then free to work on all the aspects of professional growth. This deviation in the understanding of policy and practice is radical, but deserves to be investigated. The pressure of teachers working in high-stakes testing environments, where performance-based pay exists, may have created impossible conditions for professional growth and teacher efficacy.

The findings of this study lead to some practical recommendations for future

study. Because this was a causal-comparative ex post facto study, there was no way to determine the reasons why the results were what they were. A recommendation would be to use a qualitative or mixed method design, in order to provide insight into the perceptions of teachers and principals about the evaluation process. This would give greater depth and understanding of the perceptions and views of the people involved in the process. This study could be replicated by comparing districts that have implemented the NEE educator evaluation process over a longer period of time in order to see if student achievement increases the longer a district implements NEE. The long-term effect of implementation might produce different results. A comparison of highly experienced administrators who have implemented the NEE educator evaluation process with novice administrators would be another area to research. Experienced administrators may have stronger relationships with teachers that would allow for deep discussion and reflective conversations around pedagogy in the classroom. The time of the study could be increased to include 5 years prior to the NEE educator evaluation process being introduced in order to compare the difference in student proficiency. This would provide the opportunity to look at a 10-year span that compares before and after implementation of the evaluation process. An additional recommended area of study would be to explore in greater depth educators' understanding of the importance of the theoretical underpinnings of andragogy, constructivism, and metacognition and the impact of these theories on the level of quality shown by the teacher. When the practice of teachers, as adult learners, is grounded in theory, greater understanding can lead to increased ability in the craft of teaching.

Summary

There are many factors that influence the effectiveness of the evaluation process, some requiring managerial skills, such as evaluator qualifications, timeliness of evaluations, and level of experience in specific content areas. Other factors are more focused on leadership, such as the relationship between the teacher and the evaluator, the subjectivity of the evaluator, the setting aside of personal biases and opinions, and the ability to support teacher efficacy and ownership of the evaluation process (Lipham, Rankin, & Hoeh, 1985; Moxley, 1978; Stiggins, 1986). The process of observing a teacher within the classroom setting and giving feedback to the teacher was identified as an opportunity for personalized professional growth. The focus on improving the educator evaluation process correlates with the research that a critical predictor of student achievement is teacher quality (Clotfelter, Ladd, & Vigdor, 2007; Ladd & Sorensen, 2017; Nye, Konstantopoulos, & Hedges, 2004; Rice, 2013; Rivkin, Hanushek, & Kain, 2005). As a result of this increased focus, raising student achievement scores will continue to be a goal throughout the country.

The purpose of this quantitative causal-comparative ex post facto study was to identify whether there was a difference in student achievement in ELA and math in districts that had implemented the NEE educator evaluation process and those that had not. Some of the gaps in current literature included an absence of studies at the elementary level and although there are case studies of individual districts on this topic, there are few quantitative studies. The limitations of this study included the use of previously collected data, reliability of the data, testing environment, and the relationship between the principal and teacher. The theories of andragogy, constructivism, and

metacognition guided the study of the evaluation process in schools. These theories provided a lens through which to view adult learning in a setting where the adults were highly competent in their field of work. The implications of using a continuous feedback model of evaluation, with coaching, and mediative questions guiding the process are important to educator development. Educator evaluations are designed as a tool for administrators to influence change by facilitating teacher growth in both mindset and pedagogy, increasing their effectiveness both in the classroom and school.

The overarching question in this study was, what is the difference between student achievement, as measured by students scoring proficient or advanced, in ELA and math in Grades 3-5 as measured by the MAP between districts that implemented the NEE evaluation process and those that did not for the years of 2015-2016, 2016-2017, 2017-2018, and 2018-2019? To best answer the research questions, a causal-comparative ex post facto study was utilized due to the fact that the MAP assessment data were already collected and districts had previously been identified as participating in the NEE evaluation process or not. The dependent variable of student percentages in proficient and advanced on the MAP assessment were compared to the independent variable of districts implementing the NEE evaluation process or not, in order to determine whether a significant difference existed (Salkind, 2010). Once all data were chronicled, multiple independent samples *t* tests were performed in order to reject, or fail to reject the null hypothesis. After conducting the study and analyzing the data there was a statistically significant difference in 1 out of 24 null hypotheses, between districts that implemented the NEE evaluation process and those that did not for all 4 years included in this study in either ELA or math in Grades 3-5 as measured by the MAP.

The purpose of this quantitative causal-comparative ex post facto study was to identify whether there was a difference in student achievement in ELA and math in districts that had implemented the NEE educator evaluation process and those that had not. According to this study, results did not identify statistically significant differences in 23 out of 24 null hypotheses between districts that implemented the NEE educator evaluation process and those that did not; simply stated, the NEE educator evaluation system made no difference except in one null hypothesis - in the proficient or advanced levels on the MAP in the content areas of ELA and math for third- to fifth-Grade students. The fact that discussion about why the results only showed one null hypothesis out of 24 having a statistically significant difference in student proficiency levels must be noted. Making a difference in student achievement is a complex process and will continue to be a rich topic of exploration.

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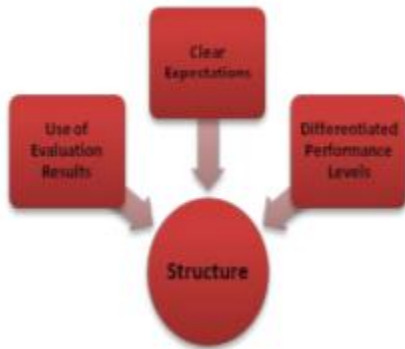
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results focuses on components of the structure of the evaluation system.



The other four principles reflect the research about how the process of educator evaluation is implemented. This includes support for novice educators during the probationary period, how measures of growth in student learning are incorporated into the evaluation of educators as a significant, contributing factor, the inclusion of regular and meaningful feedback to all educators for the improvement of practice, and the systematic initial and periodic training of those doing the evaluation as well as for those being evaluated.



Essential Principle 1: Research-Based and Proven Performance Targets To ensure that student performance continually improves through the work of excellent teachers and leaders, an evaluation system must use measurement of clearly articulated, research-based and proven performance targets. These targets align to appropriate state and/or national standards and include evidence linked to the impact of student performance. Clear language reduces subjectivity and provides direction for improvement. Practices must be aligned to Senate Bill 291 passed by the Missouri Legislature in June 2010 which directs districts to adopt local teaching standards which include: students actively participate and are successful in the learning process; various forms of assessment are used to monitor and manage student learning; the teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior; the teacher uses professional communication and interaction with the school community; the teacher

keeps current on instructional knowledge and seeks and explores changes in teaching behaviors that will improve student performance; and the teacher acts as a responsible professional in the overall mission of the school.

Essential Principle 2: Differentiated Levels of Performance Increasing effective practice requires opportunities for growth. Achieving growth, given the complexity of educator practice, will require clear statements of differentiated levels of performance across a professional continuum capable of determining growth and improvement. Effective differentiation includes a minimum of three levels and each is precise enough to allow for discrete, independent, measurable elements which reliably describe current practice as well as a clear direction for growth. Levels must be characterized by performance as opposed to years of service and should move beyond sorting and classifying to ensuring opportunities for the improvement of effective practice.

Essential Principle 3: Probationary Period for New Educators Missouri statute indicates that the first five years of teaching is a probationary period for new teachers. This time period provides for the accurate and appropriate accumulation of performance data on the practice of the novice educator. Mentoring for teachers is required within the first two years. Principals, special education directors and career education directors also receive two years of mentoring and superintendents one year of mentoring. During the probationary period, intensive induction and socialization support, aligned to the state's teacher mentor standards and a component of an overall, comprehensive induction process, must be provided. This confidential and non-evaluative support is focused on essential principles of particular significance for the novice practitioner at a critical time of growth and development.

Essential Principle 4: Use of Measures of Student Growth in Learning Missouri educators have as their ultimate goal the improvement of student performance. As such, they are held accountable for this improvement. Multiple measures of growth in student learning, a positive change in student achievement between two or more points in time, should be included as a significant contributing factor in the evaluation process. Measures of growth in student learning that provide multiple years of comparable student data may include, but are not limited, to: common, benchmark and formative and summative district-generated assessments; peer reviewed performance assessments; mutually developed student learning objectives by evaluator and teacher; student work samples such as presentations, papers, projects, portfolios; individualized student growth objectives defined by the teacher; valid, reliable, timely and meaningful information from standardized testing; as well as state assessments where available.

Essential Principle 5: Ongoing, Deliberate, Meaningful and Timely Feedback A collaborative culture enabling professional conversations about educator practice supports and promotes growth. Deliberate and timely feedback that is delivered

effectively as a part of those professional conversations and is meaningful encourages formative development. Feedback is valuable for any teacher or leader at any stage of their career and should be provided formally, informally or both each year. It is provided using multiple sources of evidence from a variety of different measures, including the use and analysis of student data, in close proximity to the data gathering process. Information and data that is provided through meaningful feedback may include but is not limited to: observations focused on professional practice and the extent of student learning; analysis of the improvement of student performance; survey results from students, families, and community members; new learning and its application to improve the overall performance of students; self-reflection on practice; analysis of artifacts including lesson plans, professional development plans, supplemental resources, participation in coursework, improvement plans; and evidence of educators as responsible professionals supporting the overall mission, vision and goals of the school and district.

Essential Principle 6: Standardized and Periodic Training for Evaluators Reliable and valid measures of performance are an essential factor in ensuring that annual growth for teachers and leaders results in growth for students. Evaluators who collect these measures of evidence and provide feedback must be highly trained to ensure that ratings are fair, accurate and reliable. To ensure ongoing reliability, evaluators should be trained both initially and periodically. Evaluators demonstrating skills aligned to minimum quality assurance standards established by districts and/or the state may include master teachers and peers as well as other external, trained third party people from within or outside the district that assist in the overall responsibility of moving staff to increased levels of effective practice. Evaluator training may include topics such as: conducting effective classroom observations and walkthroughs focused on the quality of instruction; assessing student data and the analysis of artifacts; interpreting survey information; and effectively providing clear, constructive, timely and meaningful feedback.

Essential Principle 7: Evaluation Results to inform Personnel Employment Determinations, Decisions, and Policy Ratings of educator effectiveness should guide district decisions regarding determinations, recognition, development, interventions and policies that impact the extent of student learning in the system. As a result of the evaluation system, districts are empowered to recognize and utilize highly effective educators to improve student learning. Highly effective educators may serve their system in ways such as: mentors, peer observers, coaches and as a resource for less effective educators; contributing through key leadership roles; assisting with the challenges of high need students in high need locations; and assuming other critical additional duties that contribute to a school system's overall success. Ineffective educators are those demonstrating sustained periods lacking desired growth as documented by unsatisfactory evaluations. These educators receive targeted interventions and support to encourage ongoing formative development. Established timelines should be articulated through local

policy and provide further clarification in terms of duration of interventions and the nature of additional support. If sustained demonstration of unacceptable performance occurs, a local dismissal protocol should be enacted.

<https://dese.mo.gov/sites/default/files/EssentialPrinciplesOverview-July2013.pdf>

APPENDICES B

Missouri Teacher Standards and Indicators

The Missouri Teaching Standards the Missouri Teacher Standards convey the expectations of performance for professional teachers in Missouri. The standards are based on teaching theory indicating that effective teachers are caring, reflective practitioners and life-long learners who continuously acquire new knowledge and skills and are constantly seeking to improve their teaching to provide high academic achievement for all students. Thus, these standards recognize that teachers continuously develop knowledge and skills. Therefore, the Missouri Teacher Standards employ a developmental sequence to define a professional continuum that illustrates how a teacher's knowledge and skills mature and strengthen throughout the career. Teaching professionals are expected to supply good professional judgment and to use these standards to inform and improve their own.

Standard #1 Content knowledge aligned with appropriate instruction.

The teacher understands the central concepts, structures, and tools of inquiry of the discipline(s) and creates learning experiences that make these aspects of subject matter meaningful and engaging for all students. [SB 291 Section 161.380.2 (3) The teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior.]

Quality Indicator 1: Content knowledge and academic language

Quality Indicator 2: Student engagement in subject matter

Quality Indicator 3: Disciplinary research and inquiry methodologies

Quality Indicator 4: Interdisciplinary instruction

Quality Indicator 5: Diverse social and cultural perspectives

Standard #2 Student Learning, Growth and Development The teacher understands how students learn, develop and differ in their approaches to learning. The teacher provides learning opportunities that are adapted to diverse learners and support the intellectual, social, and personal development of all students. [SB 291 Section 161.380.2 (1) Students actively participate and are successful in the learning process; (5) The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behaviors that will improve student performance.]

Quality Indicator 1: Cognitive, social, emotional and physical development

Quality Indicator 2: Student goals

Quality Indicator 3: Theory of learning

Quality Indicator 4: Differentiated lesson design

Quality Indicator 5: Prior experiences, multiple intelligences, strengths and needs

Quality Indicator 6: Language, culture, family and knowledge of community values

Standard #3 Curriculum Implementation The teacher recognizes the importance of long-range planning and curriculum development. The teacher develops, implements, and evaluates curriculum based upon student, district and state standards data. [SB 291 Section 161.380.2 (1) Students actively participate and are successful in the learning process; (2) Various forms of assessment are used to monitor and manage student learning; (3) The teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior; (5) The teacher keeps current on instructional knowledge and seeks and explores teaching behaviors that will improve student performance.]

Quality Indicator 1: Implementation of curriculum standards

Quality Indicator 2: Lessons for diverse learners

Quality Indicator 3: Instructional goals and differentiated instructional strategies

Standard #4 Critical Thinking The teacher uses a variety of instructional strategies and resources to encourage students' critical thinking, problem solving, and performance skills. [SB 291 Section 161.380.2 (1) Students actively participate and are successful in the learning process.]

Quality Indicator 1: Instructional strategies leading to student engagement in problem-solving and critical thinking

Quality Indicator 2: Appropriate use of instructional resources to enhance student learning

Quality Indicator 3: Cooperative, small group and independent learning

Standard #5 Positive Classroom Environment The teacher uses an understanding of individual/group motivation and behavior to create a learning environment that encourages active engagement in learning, positive social interaction, and self-motivation. [SB 291 Section 161.380.2 (3) The teacher is prepared and knowledgeable of the content and effectively maintains students' on-task behavior; (5) The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behaviors that will improve student performance.]

Quality Indicator 1: Classroom management techniques

Quality Indicator 2: Management of time, space, transitions, and activities

Quality Indicator 3: Classroom, school and community culture

Standard #6 Effective Communication The teacher models effective verbal, nonverbal, and media communication techniques with students, colleagues and families to foster active inquiry, collaboration, and supportive interaction in the

classroom. [SB 291 Section 161.380.2 (4) The teacher uses professional communication and interaction with the school community; (6) The teacher acts as a responsible professional in the overall mission of the school.]

Quality Indicator 1: Verbal and nonverbal communication

Quality Indicator 2: Sensitivity to culture, gender, intellectual and physical differences

Quality Indicator 3: Learner expression in speaking, writing and other media

Quality Indicator 4: Technology and media communication tools

Standard #7 Student Assessment and Data Analysis The teacher understands and uses formative and summative assessment strategies to assess the learner’s progress and uses both classroom and standardized assessment data to plan ongoing instruction. The teacher monitors the performance of each student, and devises instruction to enable students to grow and develop, making adequate academic progress. [SB 291 Section 161.380.2 (2) Various forms of assessment are used to monitor and manage student learning; (5) The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behaviors that will improve student performance.]

Quality Indicator 1: Effective use of assessments

Quality Indicator 2: Assessment data to improve learning

Quality Indicator 3: Student-led assessment strategies

Quality Indicator 4: Effect of instruction on individual/class learning

Quality Indicator 5: Communication of student progress and maintaining records

Quality Indicator 6: Collaborative data analysis

Standard #8 Professionalism The teacher is a reflective practitioner who continually assesses the effects of choices and actions on others. The teacher actively seeks out opportunities to grow professionally in order to improve learning for all students. [SB 291 Section 161.380.2 (2) Various forms of assessment are used to monitor and manage student learning; (5) The teacher keeps current on instructional knowledge and seeks and explores changes in teaching behaviors that will improve student performance; (6) The teacher acts as a responsible professional in the overall mission of the school.]

Quality Indicator 1: Self-assessment and improvement

Quality Indicator 2: Professional learning

Quality Indicator 3: Professional rights, responsibilities and ethics

Standard #9 Professional Collaboration The teacher has effective working relationships with students, parents, school colleagues, and community members. [SB 291 Section 161.380.2 (4) The teacher uses professional communication and

interaction with the school community; (6) The teacher acts as a responsible professional in the overall mission of the school.]

Quality Indicator 1: Induction and collegial activities

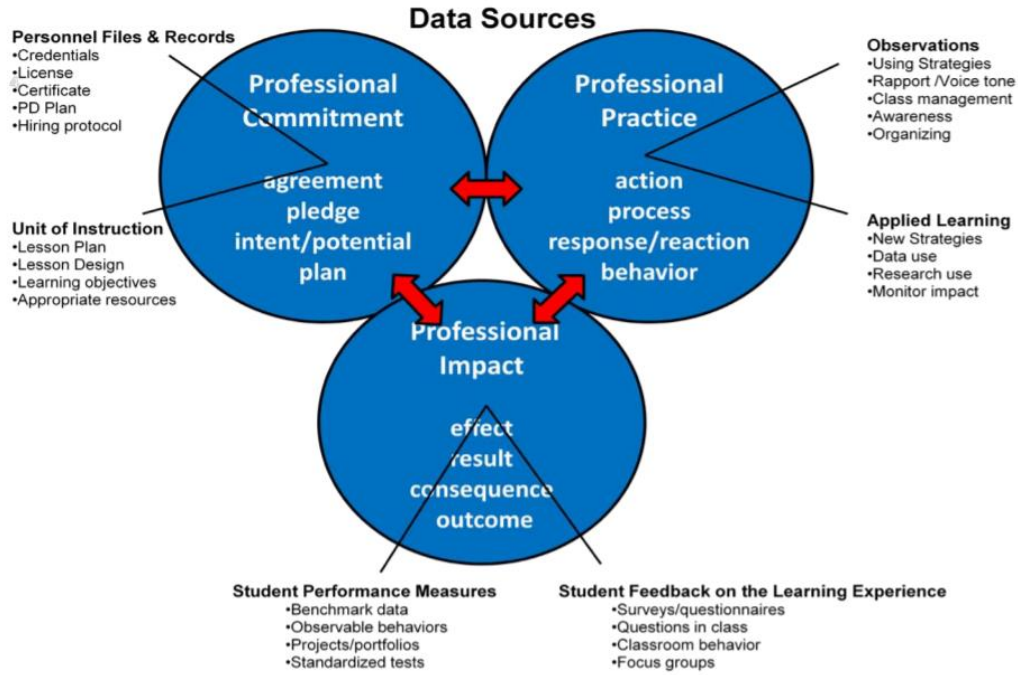
Quality Indicator 2: Collaborating to meet student needs

Quality Indicator 3: Cooperative partnerships in support of student learning

APPENDICES C

Professional Frames of the Teacher, Teacher Growth Guides and Possible Sources of Evidence

Professional Frames of the Teacher



Teacher Growth Guide 1.1

Standard 1: Content knowledge aligned with appropriate instruction.

The teacher understands the central concepts, structures, and tools of inquiry of the discipline(s) and creates learning experiences that make these aspects of subject matter meaningful and engaging for students.

Quality Indicator 1: Content knowledge and academic language

Emerging		Developing		Proficient		Distinguished	
1E1) The emerging teacher...		1D1) The developing teacher also...		1P1) The proficient teacher also...		1S1) The distinguished teacher also...	
Knows and can demonstrate breadth and depth of content knowledge and communicates the meaning of academic language.		Delivers accurate content learning experiences using supplemental resources and incorporates academic language into learning activities.		Infuses new information into instructional units and lessons displaying solid knowledge of the important concepts of the discipline.		Has mastery of taught subjects and continually infuses new research-based content knowledge into instruction.	
Professional Frames							
Evidence of Commitment <i>Is well prepared to guide students to a deeper understanding of content</i>		Evidence of Commitment <i>Stays current on new content and incorporates it into lessons</i>		Evidence of Commitment <i>Use of supplemental primary sources that are aligned to local standards</i>		Evidence of Commitment <i>Continually expands knowledge base on content and infuses into content</i>	
Evidence of Practice <i>Instruction reflects accuracy of content knowledge</i>		Evidence of Practice <i>Instruction indicates an appreciation of the complexity and ever evolving nature of the content</i>		Evidence of Practice <i>Instructional focus is on the most important concepts of the content and includes new content as appropriate</i>		Evidence of Practice <i>Continually seeks out new information and applies it to learning in their classroom</i>	
Evidence of Impact <i>Students are generally familiar with academic language</i>		Evidence of Impact <i>Students are able to use academic language</i>		Evidence of Impact <i>Students accurately use academic language related to their discipline</i>		Evidence of Impact <i>Students communicate effectively using academic language from a variety of sources</i>	
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 1.2

Standard 1: Content knowledge aligned with appropriate instruction.

Quality Indicator 2: Student engagement in subject matter

Emerging			Developing		Proficient		Distinguished	
1E2) The emerging teacher... Chooses from multiple sources to engage student interest and activity in the content.			1D2) The developing teacher also... Uses a variety of differentiated instructional strategies which purposefully engage students in content.		1P2) The proficient teacher also... Uses specific instructional strategies to engage students and advance each individual student's learning as evidenced by student data.		1S2) The distinguished teacher also... Moves fluidly between differentiated instructional strategies based on the unique learning needs and situations of the students resulting in deeper student knowledge and understanding in the content area.	
Professional Frames								
<i>Evidence of Commitment</i> N / A			<i>Evidence of Commitment</i> N / A		<i>Evidence of Commitment</i> N / A		<i>Evidence of Commitment</i> N / A	
<i>Evidence of Practice</i> Identifies engagement strategies to use to maintain student interest			<i>Evidence of Practice</i> Uses engagement strategies to increase students' levels of interest and activity		<i>Evidence of Practice</i> Instructional strategies use techniques prompting higher levels of engagement confirmed by advances in learning		<i>Evidence of Practice</i> Teacher demonstrates a wide variety of differentiated instructional strategies that directly address student needs.	
<i>Evidence of Impact</i> Students are interested and engaged in the content			<i>Evidence of Impact</i> Students' engagement causes content knowledge to advance		<i>Evidence of Impact</i> Individual student's learning increases and students can articulate why learning activities cause them to learn		<i>Evidence of Impact</i> Students demonstrate deeper content knowledge and understanding	
Score =	0	1	2	3	4	5	6	7

Teacher Growth Guide 1.3

Standard 1: Content knowledge aligned with appropriate instruction.

Quality Indicator 3: Disciplinary research and inquiry methodologies

Emerging			Developing		Proficient		Distinguished	
1E3) The emerging teacher... Introduces students to various methods of inquiry and research methodologies.			1D3) The developing teacher also... Employs student- inquiry instructional approaches to build capacity for all students on research methodologies.		1P3) The proficient teacher also... Develops strategies to engage students in the processes of inquiry and research pertinent to the discipline being taught.		1S3) The distinguished teacher also... Acquires and shares new knowledge on inquiry and research methodologies that improve student learning.	
Professional Frames								
<i>Evidence of Commitment</i> N / A			<i>Evidence of Commitment</i> N / A		<i>Evidence of Commitment</i> N / A		<i>Evidence of Commitment</i> N / A	
<i>Evidence of Practice</i> Instruction indicates a basic level of understanding about research and inquiry methodologies			<i>Evidence of Practice</i> Accepted methods of research in the content area are identifiable in observations of instructional practice		<i>Evidence of Practice</i> Instruction and classroom facilitation prompt student use of methods of inquiry and standards of evidence used in the discipline		<i>Evidence of Practice</i> Student- inquiry instructional approaches are prominent throughout instruction	
<i>Evidence of Impact</i> Students have a general knowledge of basic inquiry and research strategies			<i>Evidence of Impact</i> Students begin to use basic methods of inquiry/research methodologies		<i>Evidence of Impact</i> Students acquire and critically evaluate information/knowledge on their own and in groups using inquiry methods		<i>Evidence of Impact</i> Students design and conduct research individually and in teams using standards of evidence in the field	
Score =	0	1	2	3	4	5	6	7

Teacher Growth Guide 1.4

Standard 1: Content knowledge aligned with appropriate instruction.

Quality Indicator 4: Interdisciplinary instruction

Emerging	Developing	Proficient	Distinguished				
1E4) The emerging teacher... Demonstrates the ability to make interdisciplinary content connections during instruction.	1D4) The developing teacher also... Implements meaningful interdisciplinary learning experiences that require students to apply disciplinary knowledge.	1P4) The proficient teacher also... Develops and implements interdisciplinary projects that guide students in analyzing the complexities of an issue or question using perspectives from varied disciplines.	1S4) The distinguished teacher also... Connects current interdisciplinary themes to their discipline(s) and weaves those themes into meaningful learning experiences through collaboration with students, colleagues, and/or real-world partners.				
Professional Frames							
Evidence of Commitment N / A Evidence of Practice Connections between various disciplines are logical and add to overall learning Evidence of Impact Students understand the meaning of inter-disciplinary content connections	Evidence of Commitment N / A Evidence of Practice Meaningful learning experiences are appropriate to particular content or concepts and contribute to student's overall mastery Evidence of Impact Students apply disciplinary knowledge to real world problems with interdisciplinary themes	Evidence of Commitment N / A Evidence of Practice Lesson activities include interdisciplinary projects prompting students to analyze the complexities of an issue or question Evidence of Impact Students analyze the complexities of an issue or question using perspectives from varied disciplines	Evidence of Commitment N / A Evidence of Practice Incorporates current interdisciplinary themes into collaborative classroom learning experiences Evidence of Impact Students evaluate and synthesize the complexities of an issue or question using perspectives from varied disciplines				
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 1.5

Standard 1: Content knowledge aligned with appropriate instruction.

Quality Indicator 5: Diverse social and cultural perspectives

Emerging	Developing	Proficient	Distinguished				
1E5) The emerging teacher... Facilitates students' ability to develop balanced, diverse social and cultural perspectives by recognizing personal bias in lesson design.	1D5) The developing teacher also... Designs instruction that incorporates global perspectives about national/regional/ethnic contributions to, and cultural differences/interpretations of the discipline.	1P5) The proficient teacher also... Builds background knowledge from a variety of perspectives critical to fostering innovation, solving global challenges, and assuring a healthy democracy.	1S5) The distinguished teacher also... Facilitates student action to address real-world problems from a variety of perspectives related to the discipline that improves their community and/or world.				
Professional Frames							
Evidence of Commitment Reviews lesson plans to identify areas of potential bias Evidence of Practice Demonstrates importance and appreciation of a variety of perspectives Evidence of Impact Student understanding of local and global issues surrounding disciplinary content expands	Evidence of Commitment Eliminates bias in lesson designs and learning objectives Evidence of Practice Instructional activities include global perspectives and/or critical examination of bias Evidence of Impact Students' ability increases to develop balanced, diverse social and cultural perspectives	Evidence of Commitment Conduct reviews and research to build background knowledge and a variety of perspectives Evidence of Practice Instruction includes indications of background knowledge from a variety of perspectives prompting innovation and problem-solving Evidence of Impact Students engage in questioning and challenging of conventional assumptions and standard approaches	Evidence of Commitment Lesson designs and learning objectives exhibit a variety of perspectives Evidence of Practice Instructional strategies and learning activities include students addressing real-world problems Evidence of Impact Students address real-world problems related to the discipline that improve their community and/or world				
Score = 0	1	2	3	4	5	6	7

Possible Sources of Evidence

Standard 1: Content knowledge, including varied perspectives, aligned with appropriate instruction.

The teacher understands the central concepts, structures, and tools of inquiry of the discipline(s) and creates learning experiences that make these aspects of subject matter meaningful and engaging for students.

Professional Commitment		
<ul style="list-style-type: none"> Lesson/unit plan Learning activities plan Student learning expectations Student learning objectives Lesson design 	<ul style="list-style-type: none"> Tiered/differentiated lessons/units Homework assignments and guiding instructions Flexible grouping plans Parent/guardian outreach Bulletin boards 	<ul style="list-style-type: none"> Research integration plan Praxis scores Agenda/meeting notes from grade level/content area team IEP Conferences/reports
Professional Practice		
<ul style="list-style-type: none"> Builds student background knowledge utilizing a variety of global perspectives Uses and facilitates academic language acquisition Incorporates new research-based content information into instruction Uses instructional and engagement strategies 	<ul style="list-style-type: none"> Facilitates student enrichment activities Uses tiered differentiated learning opportunities Uses flexible grouping Draws from multiple content sources Encourages student responsibility and articulates clear student expectations 	<ul style="list-style-type: none"> Facilitates student directed learning activities Engages students in inquiry/research experiences Implements interdisciplinary learning experiences Facilitates student action to address relevant real-world issues from a global perspective
Professional Impact		
<ul style="list-style-type: none"> Observation verification of student mastery Student work samples Student portfolios Student feedback/comments Student assessment data Student reflection/journals IEP Performance/growth reports 	<ul style="list-style-type: none"> Student discussions/questions Non-academic records of individual progress (class participation, engagement, motivation, behavior, etc.) Academic records of individual student progress Student completion data on homework/projects Performance assessments 	<ul style="list-style-type: none"> Data on academic vocabulary use Structured interviews with students Student engagement and participation Student and/or parent survey results Student products/projects Parent/community attendance at school functions

Teacher Growth Guide 2.1

Standard 2: Student Learning, Growth and Development

The teacher understands how students learn, develop and differ in their approaches to learning. The teacher provides learning opportunities that are adapted to diverse learners and support the intellectual, social, and personal development of all students.

Quality Indicator 1: Cognitive, social, emotional and physical development

Emerging	Developing	Proficient	Distinguished				
2E1) The emerging teacher... Knows how to address developmental factors when making instructional decisions.	2D1) The developing teacher also... Applies understanding of child/adolescent growth and development markers to implement instruction that fosters development in students.	2P1) The proficient teacher also... Uses knowledge of individual growth and development to monitor and chart learner's progress toward goals in each domain to meet current needs and lead to the next level of development.	2S1) The distinguished teacher also... Models and shares with colleagues an effective, continuous instructional cycle that assesses individual performance, identifies needs and provides instruction promoting individual advancement in each domain.				
Professional Frames							
<p>Evidence of Commitment <i>Designs instruction with a basic understanding of developmental factors</i></p> <p>Evidence of Practice <i>Instructional decisions are based on an understanding of how students develop</i></p> <p>Evidence of Impact <i>Developmental factors specific to students are recognized</i></p>	<p>Evidence of Commitment <i>Knows and can apply theories of child/adolescent growth</i></p> <p>Evidence of Practice <i>Examples or research on models of growth and development are used as a resource to guide instructional decisions</i></p> <p>Evidence of Impact <i>Students development increases as a result of teacher's use of theories as a resource</i></p>	<p>Evidence of Commitment <i>Monitors and charts learner progress toward goals</i></p> <p>Evidence of Practice <i>Assessment is accurate and timely regarding individual status and progress and informs decisions on instruction and learning activities</i></p> <p>Evidence of Impact <i>Students progress to the next level of development as a result of teacher's use of assessment</i></p>	<p>Evidence of Commitment <i>Maintains resources to assist colleagues in their understanding of developmental theories</i></p> <p>Evidence of Practice <i>Is able to act as a resource to other colleagues in using models of growth and development to guide instruction</i></p> <p>Evidence of Impact <i>Students advance in each domain as a result of their individual needs being assessed and instruction being planned accordingly</i></p>				
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 2.2

Standard 2: Student Learning, Growth and Development

Quality Indicator 2: Student goals

Emerging		Developing		Proficient		Distinguished	
2E2) The emerging teacher... Facilitates students' understanding of taking personal responsibility for their own learning.		2D2) The developing teacher also Uses strategies to enable students to set short- and long-term goals helping them to organize and reflect on their own learning.		2P2) The proficient teacher also... Use strategies to assist students in evaluating and modifying personal learning goals based on personal performance data.		2S2) The distinguished teacher also... Acquires and shares new knowledge on strategies for enabling students to expand and assume control of their own learning.	
Professional Frames							
<i>Evidence of Commitment</i> N / A		<i>Evidence of Commitment</i> N / A		<i>Evidence of Commitment</i> N / A		<i>Evidence of Commitment</i> N / A	
<i>Evidence of Practice</i> Use of classroom routines and procedures highlight student responsibility		<i>Evidence of Practice</i> Classroom practices, routines and instruction emphasizes students setting goals		<i>Evidence of Practice</i> Classroom practices and routines emphasize student organization and setting short-and long-term goals		<i>Evidence of Practice</i> Facilitates learning activities requiring student control of their own learning	
<i>Evidence of Impact</i> Students demonstrate basic responsibility based on clear expectations		<i>Evidence of Impact</i> Students demonstrate responsibility by setting personal learning goals		<i>Evidence of Impact</i> Students set short- and long-term goals, organize, implement, and self-reflect to benefit their learning		<i>Evidence of Impact</i> Students work productively and cooperatively with each other to achieve learning goals	
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 2.3

Standard 2: Student Learning, Growth and Development

Quality Indicator 3: Theory of learning

Emerging		Developing		Proficient		Distinguished	
2E3) The emerging teacher... Applies theories of learning to create well-planned and delivered instruction.		2D3) The developing teacher also... Implements research-based instruction focused on production of learning for individual students.		2P3) The proficient teacher also... Delivers instruction that effectively produces learning gains for every student based on effective plans, grounded in theory/research, and designed to meet individual needs.		2S3) The distinguished teacher also... Continuously modifies instruction based on his/her own and emerging research and shares effective practices and modifications with colleagues.	
Professional Frames							
<i>Evidence of Commitment</i> Lesson plans are consistent with best-practice and foundational and current learning theories		<i>Evidence of Commitment</i> Uses foundational and current learning theories to design instruction aimed at fostering learning in every student		<i>Evidence of Commitment</i> Uses emerging research to design instruction likely to produce learning for every student		<i>Evidence of Commitment</i> Produces and/or utilizes research that guides effective lesson design aimed at producing learning for every student	
<i>Evidence of Practice</i> Alignment exists between instruction that is planned and instruction that is delivered		<i>Evidence of Practice</i> Demonstrates an understanding of how instruction can produce learning for students based on individual learning needs		<i>Evidence of Practice</i> Consistently and effectively delivers instruction which focuses on producing learning gains for every student		<i>Evidence of Practice</i> Offers presentations, acts as a resource and/or mentors new teachers on using theories of learning in the classroom	
<i>Evidence of Impact</i> Students receive instruction based on effective planning		<i>Evidence of Impact</i> Students individual learning needs are addressed		<i>Evidence of Impact</i> Student learning gains increase as a result of the teacher's effective instruction		<i>Evidence of Impact</i> Student learning gains increase as a result of theories of learning	
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 2.4

Standard 2: Student Learning, Growth and Development

Quality Indicator 4: Differentiated lesson design

Emerging		Developing		Proficient		Distinguished	
2E4) The emerging teacher...		2D4) The developing teacher also...		2P4) The proficient teacher also...		2S4) The distinguished teacher also...	
Designs and implements instruction that considers the needs of students.		Designs and implements instruction that enables students to learn, grow, and develop because their needs are met in a positive learning environment.		Through design and instruction, establishes an inviting and nurturing educational environment by creating a trusting relationship with students that engages them in learning.		Plans and cultivates the unique skills and talents of every child and encourages them to ask questions, take risks and enjoy learning.	
Professional Frames							
Evidence of Commitment <i>Designs lessons and activities based on the unique needs of students</i>		Evidence of Commitment <i>Lesson design and plans for instruction demonstrate respect and value for each student</i>		Evidence of Commitment <i>Plans for an inviting and nurturing educational environment that enhances learning</i>		Evidence of Commitment <i>Learning objectives and activities highlight the skills and talents of all students</i>	
Evidence of Practice <i>Can articulate important characteristics and needs of students as they apply to learning</i>		Evidence of Practice <i>Highlights unique attributes of individual students as a part of classroom instruction and learning</i>		Evidence of Practice <i>Engages in strategies that promote trust and positive rapport to enhance the learning of each student</i>		Evidence of Practice <i>Classroom techniques and rapport highlight the unique skills and talents of every child</i>	
Evidence of Impact <i>Students appear to exhibit positive rapport with the teacher and are generally motivated to learn</i>		Evidence of Impact <i>Students perceive they are respected, valued and are encouraged to learn</i>		Evidence of Impact <i>Students learning increases and students demonstrate positive relationships with the teacher and peers</i>		Evidence of Impact <i>Students ask questions, take risks and enjoy learning</i>	
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 2.5

Standard 2: Student Learning, Growth and Development

Quality Indicator 5: Prior experiences, multiple intelligences, strengths and needs

Emerging		Developing		Proficient		Distinguished	
2E5) The emerging teacher...		2D5) The developing teacher also...		2P5) The proficient teacher also...		2S5) The distinguished teacher also...	
Delivers a variety of lesson activities that address students' prior experiences, multiple intelligences, strengths and needs.		Creates and delivers lessons and instructional activities that address the individual needs of all learners and variation in prior knowledge and experiences, multiple intelligences, strengths, and needs.		Adapts strategies to meet individual student needs based on student performance data and where the child is developmentally, cognitively, physically, and affectively to advance knowledge and skill development.		Acquires and shares authentic strategies for actively involving every student in advancing their own learning, building on their unique experience, intelligence, strengths and needs.	
Professional Frames							
Evidence of Commitment <i>Plans for various assessment strategies to determine individual experiences, intelligences, strengths and needs</i>		Evidence of Commitment <i>Lessons indicate an understanding of individual student traits and prior experiences</i>		Evidence of Commitment <i>Plans instruction that will engage and advance each student in her/her learning and development</i>		Evidence of Commitment <i>Modifies lesson design and learning objectives as needed to help students become more successful learners</i>	
Evidence of Practice <i>Uses various assessment strategies to determine individual experiences, intelligences, strengths and needs</i>		Evidence of Practice <i>Learning activities highlight and build off students individual characteristics traits and prior experiences</i>		Evidence of Practice <i>Assessment data is maintained to confirm that students are moving forward</i>		Evidence of Practice <i>Learning activities involve every student in the advancement of his/her own learning</i>	
Evidence of Impact <i>Students know the way they think and learn is considered and addressed</i>		Evidence of Impact <i>Students can explain connections between their prior knowledge and current instruction</i>		Evidence of Impact <i>Students use prior knowledge to predict new information and increase their knowledge and skill</i>		Evidence of Impact <i>Students are excited about learning, use prior knowledge in concert with new information to raise questions, make inferences, and draw new conclusions</i>	
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 2.6

Standard 2: Student Learning, Growth and Development

Quality Indicator 6: Language, culture, family and knowledge of community values

Emerging	Developing	Proficient	Distinguished				
2E6) The emerging teacher... Reviews demographic and biographical data of students to determine the variety of learning needs.	2D6) The developing teacher also... Modifies instruction in response to how students' learning is influenced by individual experience, talents, and prior learning, as well as language, culture, family and community values.	2P6) The proficient teacher also... Creates a learning climate which respects individual differences by using teaching approaches that incorporate and are sensitive to the multiple experiences of learners, their family, culture, and community.	2S6) The distinguished teacher also... Connects instruction to students' experiences creating a trusting environment by employing strategies that respect differing cultures and draws explicit connections during instruction / assignments that are related to students' experiences and culture.				
Professional Frames							
Evidence of Commitment N / A	Evidence of Commitment N / A	Evidence of Commitment N / A	Evidence of Commitment N / A				
Evidence of Practice <i>Collects and reviews demographic and biographical data of students</i>	Evidence of Practice <i>Demonstrates modifications in instruction in response to students' individual experience, talents, prior learning, language, culture, family and community values</i>	Evidence of Practice <i>Models respect through action and words and establishes classroom routines and procedures which highlight mutual respect for others</i>	Evidence of Practice <i>Maintains a trusting classroom environment and demonstrates strategies that teach mutual respect for differing experiences and cultures</i>				
Evidence of Impact <i>Students perceive that their particular differences and needs are recognized</i>	Evidence of Impact <i>Students' learning is positively affected</i>	Evidence of Impact <i>Students respect the differences of others as modeled</i>	Evidence of Impact <i>Students experience an environment of trust and mutual respect</i>				
Score = 0	1	2	3	4	5	6	7

Possible Sources of Evidence

Standard 2: Student Learning, Growth and Development

The teacher understands how students learn, develop and differ in their approaches to learning. The teacher provides learning opportunities that are adapted to diverse learners and support the intellectual, social, and personal development of all students.

Professional Commitment			
<ul style="list-style-type: none"> Student assessment data Lesson/unit plans Substitute teacher plan Bulletin board(s) Posted behavioral norms/class procedures Student work/rubric displays 	<ul style="list-style-type: none"> Structured teacher interviews Student/parent survey Research documentation log Instructional records Professional growth plans Personnel file Flexible grouping plans 	<ul style="list-style-type: none"> Rubrics/scoring guides Self reflection Student inventories - interest, learning style, multiple intelligence, developmental Observation Tiered/differentiated lessons/units 	<ul style="list-style-type: none"> Communications Educational environment Agenda - collaborative meeting IEP conferences/reports Counselor reports Professional learning
Professional Practice			
<ul style="list-style-type: none"> Maintains individual student records and assessment data Monitors individual student growth Uses assessment data to make informed instructional and/or assessment decisions Demonstrates knowledge and understanding of individual student backgrounds/ demographics/academic growth/learning profiles Designs and implements student need-based instruction 	<ul style="list-style-type: none"> Applies learning theories to the design of instruction Plans and implements culturally responsive lessons Connects instruction to students' background knowledge and experiences Facilitates student long- and short-term goal setting Provides differentiated learning activities Modifies instruction based on a determined need (i.e. student learning, research, etc.) 	<ul style="list-style-type: none"> Promotes student cooperative learning and collaboration Implements research-based instruction Makes "in the moment" instructional decisions/changes Provides focused, objective, relevant, valid, specific, and purposeful feedback to students Creates a safe risk-free learning environment Demonstrates a respectful regard for each student 	<ul style="list-style-type: none"> Models and/or shares with colleagues Assists/Coaches colleagues Mentors new teachers Reflects on practice Uses student/parent surveys to inform educator practice Communicates respectfully with students, parents, guardians, community members, colleagues, and other school staff Engages in community activities
Professional Impact			
<ul style="list-style-type: none"> Observation verification of student mastery Student work samples Student planners Student assessment data 	<ul style="list-style-type: none"> Student reflection/journals Student inventories Student /parent feedback/comments Student and/or parent survey results 	<ul style="list-style-type: none"> Structured interviews with students Student products/projects Performance assessments 	<ul style="list-style-type: none"> IEP Performance/growth reports Non-academic records of individual progress (class participation, engagement, motivation, behavior, etc.) Academic records of individual student progress

Teacher Growth Guide 3.1

Standard 3: Curriculum Implementation

The teacher recognizes the importance of long-range planning and curriculum development. The teacher develops, implements, and evaluates curriculum based upon student, district and state standards data.

Quality Indicator 1: Implementation of curriculum standards

Emerging			Developing			Proficient			Distinguished		
3E1) The emerging teacher...			3D1) The developing teacher also...			3P1) The proficient teacher also...			3S1) The distinguished teacher also...		
Makes informed decisions about instructional objects aligned to district mapping and pacing guides.			Consistently delivers a variety of learning experiences that are appropriate for curriculum and are aligned with state and district curriculum and assessments.			Uses state/district curriculum guides with enough facility to anticipate skill gaps and/or misconceptions of students in order to deliver effective instruction.			Participates and/or demonstrates leadership for the evaluation and development of curriculum aligned to national, state, and district curriculum and assessments.		
Professional Frames											
Evidence of Commitment <i>Selects and creates learning experiences that are appropriate for district curriculum and assessments</i>			Evidence of Commitment <i>Lesson plans demonstrate a coherence of learning objectives aligned with state and district standards</i>			Evidence of Commitment <i>Aligns curriculum objectives to learning activities that correspond with state and district curriculum and assessments and secures resources to support instruction</i>			Evidence of Commitment <i>Serves on committees and teams evaluating and developing curriculum aligned to national, state, and district curriculum and assessments</i>		
Evidence of Practice <i>Demonstrates an understanding of district curriculum and assessment and how to incorporate them into learning activities</i>			Evidence of Practice <i>Delivers lesson activities that demonstrate a variety of appropriate learning aligned with state and district curriculum and assessments</i>			Evidence of Practice <i>Demonstrates anticipation of skill gaps and/or misconceptions and uses information to deliver effective instruction</i>			Evidence of Practice <i>Participates in formal and informal collegial support activities including curriculum and review committees</i>		
Evidence of Impact N / A			Evidence of Impact N / A			Evidence of Impact N / A			Evidence of Impact N / A		
Score = 0	1	2	3	4	5	6	7	8	9	10	11

Teacher Growth Guide 3.2

Standard 3: Curriculum Implementation

Quality Indicator 2: Lessons for diverse learners

Emerging			Developing			Proficient			Distinguished		
3E2) The emerging teacher...			3D2) The developing teacher also...			3P2) The proficient teacher also...			3S2) The distinguished teacher also...		
Implements lessons and activities aligned to the curriculum that recognizes the individual needs of diverse learners			Consistently implements lessons and activities that address the needs of diverse learners and responds to ongoing analysis of student performance based on multiple assessments and analysis of student needs.			Evaluates the effectiveness of a variety of instructional strategies based on multiple assessment data, curriculum and an analysis of student needs.			Participates and/or demonstrates leadership in the development of instructional strategies and interventions to accomplish instructional goals based on multiple assessment data, curriculum and an analysis of student needs.		
Professional Frames											
Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A		
Evidence of Practice <i>Activities are present in lessons that recognize individual needs of diverse learners and variations in learning styles and performance</i>			Evidence of Practice <i>Delivers lessons and activities that address the needs of diverse learners and respond to ongoing analysis of student performance</i>			Evidence of Practice <i>Evaluates and reflects on the effectiveness of instructional strategies</i>			Evidence of Practice <i>Effectiveness based on assessment data is shared with others through formal and informal collegial interaction and support progress</i>		
Evidence of Impact <i>Students perceive that their individual learning needs are recognized</i>			Evidence of Impact <i>Students perceive that their performance improved as a result of specific teacher's lessons and activities</i>			Evidence of Impact <i>Students identify the teacher's instructional strategies which helped them substantially improve their performance</i>			Evidence of Impact <i>Students identify every instructional strategy of the teacher as being effective and credit the teacher with causing them to perform at a high level</i>		
Score = 0	1	2	3	4	5	6	7	8	9	10	11

Teacher Growth Guide 3.3

Standard 3: Curriculum Implementation

Quality Indicator 3: Instructional goals and differentiated instructional strategies

Emerging		Developing		Proficient		Distinguished	
3E3) The emerging teacher...		3D3) The developing teacher also...		3P3) The proficient teacher also...		3S3) The distinguished teacher also...	
Uses differentiated instructional strategies to address student learning needs in meeting the objectives of the curriculum.		Systematically selects differentiated instructional strategies and content to meet student needs and enhance learning.		Adjusts instructional goals and time and modifies instructional strategies, and content to meet students' needs and enhance learning.		Leads colleagues in discussions of instructional goals to identify methods for modifying instructional strategies, content, and adjusting time to meet students' needs and enhance learning.	
Professional Frames							
Evidence of Commitment <i>Informally assesses lesson plans relative to long and short-term goals to accomplish curriculum standards</i>		Evidence of Commitment <i>Analyzes lesson plan effectiveness relative to long- and short-term goals to help students accomplish curriculum standards</i>		Evidence of Commitment <i>Continuously evaluates lesson plan effectiveness relative to long- and short-term goals for student performance in meeting curriculum standards</i>		Evidence of Commitment <i>Engages in a cycle of lesson plan modification based on student results in meeting curriculum standards</i>	
Evidence of Practice <i>Instruction delivered demonstrates differentiation strategies</i>		Evidence of Practice <i>Differentiated instructional strategies meet student needs and enhance learning</i>		Evidence of Practice <i>Demonstrates adjustments as a part of delivering effective instruction</i>		Evidence of Practice <i>Collaborates with colleagues in discussions of instructional goal modification and strategies, content, and adjusting time to meet students' needs and enhance learning</i>	
Evidence of Impact N/A		Evidence of Impact N/A		Evidence of Impact N/A		Evidence of Impact N/A	
Score = 0	1	2	3	4	5	6	7

Possible Sources of Evidence

Standard 3: Curriculum Implementation

The teacher recognizes the importance of long-range planning and curriculum development. The teacher develops, implements, and evaluates curriculum based upon student, district and state standards data.

Professional Commitment			
<ul style="list-style-type: none"> Lesson plans/unit plans Adjusted lesson/unit plans Lesson design Classroom activities 	<ul style="list-style-type: none"> Planned learning experiences Curriculum maps Goals/Expectations/Essential learning outcomes 	<ul style="list-style-type: none"> Teacher reflections Professional learning presentations Homework assignments 	<ul style="list-style-type: none"> Presentations to colleagues Peer conversations, discussions, comments, reflections, etc.
Professional Practice			
<ul style="list-style-type: none"> Makes informed curriculum decisions Incorporates state and district curriculum into learning activities Develops curriculum-aligned instructional strategies and interventions Uses differentiated instructional strategies Evaluates the effectiveness of instructional strategies 	<ul style="list-style-type: none"> Adjusts goals, instruction and time based on identified learning gaps Modifies instructional strategies and content based on learner needs Implements learning activities focused on the needs of diverse learners Collects data on diverse learning needs to provide direction for future lessons 	<ul style="list-style-type: none"> Delivers effective instruction aligned to state and district curriculum standards Utilizes specific learning activities to address curriculum objectives Integrates resources that enhance instruction and support diverse learners 	<ul style="list-style-type: none"> Uses data to evaluate the effectiveness of instructional strategies Models and shares with colleagues (formally and informally) Serves on curricular review committees Assists/Coaches colleagues
Professional Impact			
<ul style="list-style-type: none"> Student/Parent feedback Student/Parent survey perceptual data results 	<ul style="list-style-type: none"> Student journals/reflections Student structured interviews 	<ul style="list-style-type: none"> Student-lead parent conferences Student tracked record of individual progress 	<ul style="list-style-type: none"> Observation/examples of student learning needs being met

Teacher Growth Guide 4.1

Standard 4: Critical Thinking

The teacher uses a variety of instructional strategies and resources to encourage students' critical thinking, problem solving, and performance skills.

Quality Indicator 1: Instructional strategies leading to student engagement in problem-solving and critical thinking

Emerging	Developing	Proficient	Distinguished				
4E1) The emerging teacher... Selects various types of instructional strategies and appropriate resources to achieve instructional goals and teach students critical thinking skills.	4D1) The developing teacher also... Assures student growth with frequent instructional opportunities for students to use critical thinking and problem solving skills.	4P1) The proficient teacher also... Effectively applies a range of instructional techniques that require students to think critically and problem-solve.	4S1) The distinguished teacher also... Fluently uses a range of instructional techniques that require critical thinking; serves as a leader by offering constructive assistance and modeling the use of strategies, materials and technology to maximize learning.				
Professional Frames							
Evidence of Commitment <i>N / A</i>	Evidence of Commitment <i>N / A</i>	Evidence of Commitment <i>N / A</i>	Evidence of Commitment <i>N / A</i>				
Evidence of Practice <i>Demonstrates use of various types of instructional strategies and appropriate resources for critical thinking</i>	Evidence of Practice <i>Assesses student growth to determine student use of critical thinking and problem solving skills</i>	Evidence of Practice <i>Effectively demonstrates a range of instructional techniques that require students to think critically and problem-solve</i>	Evidence of Practice <i>Serves as a leader in the use of instructional strategies, materials and technology that maximize student learning</i>				
Evidence of Impact <i>Students are engaged in active learning that promotes the development of critical thinking and problem solving skills</i>	Evidence of Impact <i>There is growth in student learning and use of critical thinking and problem-solving skills</i>	Evidence of Impact <i>Students ability to think critically and problem-solve is evident in students' communications and work</i>	Evidence of Impact <i>Students pose and answer their own questions pursuant to the learning objectives assuming responsibility for their own learning</i>				
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 4.2

Standard 4: Critical Thinking

Quality Indicator 2: Appropriate use of instructional resources to enhance student learning

Emerging	Developing	Proficient	Distinguished				
4E2) The emerging teacher... Uses a variety of instructional resources to enhance the teaching and learning process.	4D2) The developing teacher also... Purposefully selects and uses a variety of developmentally appropriate instructional resources to enhance academic performance and technological literacy.	4P2) The proficient teacher also... Assesses the effectiveness of instructional resources and developmentally appropriate instructional activities and adapts for promoting complex thinking and technological skills.	4S2) The distinguished teacher also... Applies research-based instructional resources including technology to enhance their own teaching, as well as being a potential resource to others.				
Professional Frames							
Evidence of Commitment <i>Lesson design includes the use of instructional resources, including technology</i>	Evidence of Commitment <i>Lesson design includes developmentally appropriate resources</i>	Evidence of Commitment <i>Lesson design includes resources that promote complex thinking skills and student use of technology</i>	Evidence of Commitment <i>Lesson design includes research-based resources and technology</i>				
Evidence of Practice <i>Delivered instruction includes resources and technologies to enhance the teaching and learning process</i>	Evidence of Practice <i>Lesson activities demonstrate developmentally appropriate instructional resources that enhance academic performance</i>	Evidence of Practice <i>Instruction delivery includes developmentally appropriate instructional activities that promote complex thinking and technological skills</i>	Evidence of Practice <i>Uses research-based instructional resources including technology to enhance their teaching effectiveness as well as the teaching of others</i>				
Evidence of Impact <i>Students use new information and technology skills to create accurate products</i>	Evidence of Impact <i>Students use new knowledge and technological skills to predict, connect ideas, and raise/answer questions</i>	Evidence of Impact <i>Students apply new knowledge and technological skills to make inferences, support arguments, and solve problems</i>	Evidence of Impact <i>Students effectively use technologies and are engaged in analysis, synthesis, interpretation, and creation of original products</i>				
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 4.3

Standard 4: Critical Thinking

Quality Indicator 3: Cooperative, small group and independent learning

Emerging	Developing	Proficient	Distinguished				
4E3) The emerging teacher... Employs individual and cooperative learning activities to promote critical thinking skills.	4D3) The developing teacher also... Uses a variety of learning situations, such as independent, small group and whole class to enhance individual and collective critical thinking skills.	4P3) The proficient teacher also... Effectively combines flexible and varied independent, cooperative and whole-class learning situations and applies grouping strategies to maximize student understanding and learning.	4S3) The distinguished teacher also... Models and/or shares with others the effective use of flexible and varied independent, collaborative and whole-class learning situations.				
Professional Frames							
Evidence of Commitment N / A	Evidence of Commitment N / A	Evidence of Commitment N / A	Evidence of Commitment N / A				
Evidence of Practice <i>Effectively manages students and learning activities in both individual and collaborative situations</i>	Evidence of Practice <i>Classroom structures include independent, cooperative and whole class as appropriate to content</i>	Evidence of Practice <i>Demonstrates the combining of varied independent, collaborative and whole-class learning situations and grouping strategies</i>	Evidence of Practice <i>Is able to present on or act as a resource on the use of independent, collaborative and whole class learning situations</i>				
Evidence of Impact <i>Students participate in individual and collaborative learning activities</i>	Evidence of Impact <i>Students define roles and demonstrate improved collaborative skills in various learning structures</i>	Evidence of Impact <i>Students automatically engage in peer and independent learning strategies that results in increased knowledge and skills</i>	Evidence of Impact <i>Students are self-directed learners who maximize understanding and learning by fluently using a variety of strategies to learn</i>				
Score = 0	1	2	3	4	5	6	7

Possible Sources of Evidence

Standard 4: Critical Thinking

The teacher uses a variety of instructional strategies to encourage students' critical thinking, problem solving, and performance skills including technological resources.

Professional Commitment			
<ul style="list-style-type: none"> Lesson plans/unit plans Lesson design 	<ul style="list-style-type: none"> Planned resource list including technology resources Instructional strategies list 	<ul style="list-style-type: none"> Planned Cooperative learning strategies (list) Plans for projects and activities 	<ul style="list-style-type: none"> Student learning expectations Flexible grouping plans Professional reading/research documentation
Professional Practice			
<ul style="list-style-type: none"> Selects and utilizes developmentally appropriate instructional resources including technology Adapts instructional resources to promote complex thinking and technology skills attainment Selects instructional strategies that promote critical thinking skills and are aligned to instructional goals. 	<ul style="list-style-type: none"> Implements learning activities focused on higher order thinking and problem-solving skills Utilizes cooperative learning strategies that promote collaborative learning Utilizes class debates and other methods requiring students to defend their thinking and solutions Uses independent, collaborative and whole-class learning situations 	<ul style="list-style-type: none"> Uses effective questioning techniques to expand student critical thinking skills, to consider multiple solutions, and defend their own thinking. Designs open-ended projects/activities promoting complex thinking and technology skills including multiple solutions and innovations 	<ul style="list-style-type: none"> Provides frequent opportunities for students to use critical thinking and problem solving Uses advanced instructional techniques to create a high level of student achievement Overall effectiveness is enhanced through the use of instructional resources and technology Serves as a resource providing collegial support and modeling
Professional Impact			
<ul style="list-style-type: none"> Student work/projects Observation of student participation in collaborative learning activities Observation/examples of student directed inquiry and problem Performance assessments data 	<ul style="list-style-type: none"> Technology literacy inventories Student assessment data Student questions/discussions (higher level questions) Student presentations/ research/reports Student application/use of technology tools - demonstrations, projects, products, etc. 	<ul style="list-style-type: none"> Student feedback/comments Student reflection/journals Student structured interviews Anecdotal data and formative evaluations Students products/projects showing application of learning documenting the ability to analyze, synthesize, interpret and create original products 	<ul style="list-style-type: none"> Non-instructional records of individual student progress (participation, engagement, motivation, behavior, etc.) Demonstration/examples that students are able to explain their reasoning Observations or examples of students ability to pose and answer own questions pursuant to learning objectives

Teacher Growth Guide 5.1

Standard 5: Positive Classroom Environment

The teacher uses an understanding of individual/group motivation and behavior to create a learning environment that encourages active engagement in learning, positive social interaction, and self-motivation.

Quality Indicator 1: Classroom Management Techniques

Emerging	Developing	Proficient	Distinguished				
5E1) The emerging teacher... Demonstrates basic classroom management techniques and addresses misbehavior to avoid the disruption of instruction.	5D1) The developing teacher also... Uses effective classroom management techniques including addressing misbehavior promptly and effectively with the least disruption of instruction.	5P1) The proficient teacher also... Adapts and develops classroom management techniques that address all student misbehavior ensuring little or no disruption of instruction.	5S1) The distinguished teacher also... Shares with others effective classroom management techniques that reduce the likelihood of misbehavior ensuring little or no disruptions to instruction.				
Professional Frames							
Evidence of Commitment Classroom artifacts (posted rules and protocols) support effective techniques Evidence of Practice Engages in techniques to manage behavior in the classroom Evidence of Impact Student misbehavior is addressed	Evidence of Commitment Artifacts include strategies for addressing misbehavior Evidence of Practice Techniques address misbehavior promptly and positively allowing instruction to continue Evidence of Impact Student misbehavior is addressed promptly and positively allowing instruction to continue	Evidence of Commitment Posted management techniques address a wide variety of possible misbehaviors Evidence of Practice Demonstrates adaptations to techniques to address unique student misbehaviors Evidence of Impact Unique misbehaviors are addressed promptly and positively allowing student learning to continue	Evidence of Commitment Artifacts for classroom management are shared with colleagues Evidence of Practice Serves as a resource to other colleagues on effective classroom management Evidence of Impact Colleagues improve their use of classroom management techniques				
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 5.2

Standard 5: Positive Classroom Environment

Quality Indicator 2: Management of time, space, transitions, and activities

Emerging	Developing	Proficient	Distinguished				
5E2) The emerging teacher... Manages time, space, transitions, and activities in their classroom.	5D2) The developing teacher also... Effectively manages time, space, transitions, and activities to create an environment that enhances student engagement.	5P2) The proficient teacher also... Organizes, allocates, and manages time, space, transitions and activities to promote continuous student engagement and high levels of productivity.	5S2) The distinguished teacher also... Shares with others effective strategies for managing time, space, transitions and activities to promote continuous student engagement and high levels of productivity.				
Professional Frames							
Evidence of Commitment Designs routines that support effective management of time, space, transitions and activities Evidence of Practice Demonstrates a basic understanding of the value of managing time, space, transitions, and activities to increase student engagement and self-direction Evidence of Impact Students are generally engaged and somewhat responsive to the teacher's classroom management strategies	Evidence of Commitment Routines and structures support effective management of time, space, transitions and activities Evidence of Practice Maintains student engagement by effectively managing time, space, transitions, and activities Evidence of Impact Students are engaged and respond to the teacher's effective management of time, space, transitions, and activities	Evidence of Commitment Routines and structures are modified as necessary to enhance effective management Evidence of Practice Engagement data indicates a strong impact from the management of time, space, transitions and activities Evidence of Impact Students are engaged and see the importance of self direction and control	Evidence of Commitment Routines and structures are modified based on student input Evidence of Practice Is able to serve as a resource to others on strategies for managing time, space, transitions, and activities Evidence of Impact Colleagues improve their own management of time, space, transitions, and activities				
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 5.3

Standard 5: Positive Classroom Environment

Quality Indicator 3: Classroom, school and community culture

Emerging			Developing			Proficient			Distinguished		
5E3) The emerging teacher			5D3) The developing teacher also...			5P3) The proficient teacher also...			5S3) The distinguished teacher also...		
Builds awareness of the culture of the school and community in order to influence student relationships and build an effective classroom learning environment.			Develops a positive culture in the classroom and school to positively affect student relationships and learning.			Maintains and enhances a positive culture in the classroom and school, creating a classroom environment which promotes positive student relationships and learning.			Actively engages students in discussing and evaluating the culture of the classroom, school and community to positively impact relationships and learning.		
Professional Frames											
Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A		
Evidence of Practice <i>Engages in practices to learn the culture of the school and community</i>			Evidence of Practice <i>Positively affects student relationships and learning by using strategies that promote a positive classroom culture</i>			Evidence of Practice <i>Demonstrates efforts to build a positive classroom and school culture that results in an environment conducive to learning for all students</i>			Evidence of Practice <i>Engages students in participating in forming the classroom environment based on the culture of the school and community</i>		
Evidence of Impact <i>The classroom learning environment is structured to build positive student relationships and culture</i>			Evidence of Impact <i>The classroom learning environment encourages positive student relationships and mutual respect to enhance learning</i>			Evidence of Impact <i>The culture of the classroom learning environment is characterized by positive student relationships and mutual respect that impacts student learning</i>			Evidence of Impact <i>Students discuss and evaluate the culture of the classroom, school and community and their impact on relationships and learning</i>		
Score = 0	1	2	3	4	5	6	7				

Possible Sources of Evidence

Standard 5: Positive Classroom Environment

The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages active engagement in learning, positive social interaction, and self-motivation.

Professional Commitment			
<ul style="list-style-type: none"> Posted classroom procedures/routines <ul style="list-style-type: none"> Classroom norms Parent/community outreach 			
Professional Practice			
<ul style="list-style-type: none"> Designs classroom routines and procedures Communicates classroom routines, procedures, and expectations for behavior to parents/guardians Uses motivation and engagement strategies in the classroom Organizes classroom and routines with regard to management of time, space, transitions and activities 	<ul style="list-style-type: none"> Maintains student engagement by managing time, space, transitions and activities Self-reflects on the effectiveness of motivation and engagement strategies Uses effective classroom management techniques preserving instructional time Engages in practices to learn the culture of the school and community 	<ul style="list-style-type: none"> Work with students and parents to build a positive, supportive classroom culture Engages in ongoing assessment of how the classroom environment is impacted by the culture of the school and community Adapts strategies to address unique student behaviors Attends community and school events 	<ul style="list-style-type: none"> Gathers and implements new research-based strategies for positively managing student behavior Engages students in strategies to think about and provide input into building positive relationships and culture Models, coaches, or shares with colleagues strategies to address student behavior
Professional Impact			
<ul style="list-style-type: none"> Observation/examples of Student feedback/comments Students respond to teacher prompts (observable) Student to student and student to teacher interactions are positive (observable verbal and non-verbal cues) Classroom discipline/incident report analysis trend data 	<ul style="list-style-type: none"> Parent/community outreach and engagement summary Completed homework/projects trend data Student reflections/journal data Students/parents survey summary data Students quickly respond to the teacher's cues and prompts 	<ul style="list-style-type: none"> Students maintain high levels of engagement Students understand expectations and automatically follow the procedures, routines, and norms--self directed Non-instructional records of individual student progress (participation, engagement, motivation, behavior, etc.) 	<ul style="list-style-type: none"> Students participate in forming the classroom environment Staff survey Attendance data IEP reports

Teacher Growth Guide 6.1

Standard 6: Effective Communication

The teacher models effective verbal, nonverbal, and media communication techniques with students, colleagues and families to foster active inquiry, collaboration, and supportive interaction in the classroom.

Quality Indicator 1: Verbal and nonverbal communication

Emerging		Developing		Proficient		Distinguished		
6E1) The emerging teacher... Uses correct, effective verbal and non-verbal communication skills.		6D1) The developing teacher also... Consistently uses and fosters correct, effective verbal and nonverbal communication, including strategies to communicate with students whose first language is not Standard English or whose disability requires specific forms of communication.		6P1) The proficient teacher also... Evaluates the impact of and strategies for the correct and effective use of verbal and nonverbal communication.		6S1) The distinguished teacher also... Shares with others strategies for ensuring correct, effective verbal and nonverbal communication in their school and throughout the community.		
Professional Frames								
<i>Evidence of Commitment</i> Non-verbal communication (written, electronic, etc.) is basically effective and correct		<i>Evidence of Commitment</i> Written and electronic communication is effective and correct		<i>Evidence of Commitment</i> Written and electronic communication is effective and correct for all students		<i>Evidence of Commitment</i> Written and electronic school and district-wide communication is effective		
<i>Evidence of Practice</i> Demonstrates a basic level of effective verbal and non-verbal communication		<i>Evidence of Practice</i> Communication is grammatically correct and effective in a variety of different ways: spoken, written, presentations, etc.		<i>Evidence of Practice</i> Facilitates and models the use of effective communication strategies both verbal and non-verbal with all students, colleagues, family, etc.		<i>Evidence of Practice</i> Contributes to the overall effective and correct communication coming from the school to the larger community		
<i>Evidence of Impact</i> N/A		<i>Evidence of Impact</i> N/A		<i>Evidence of Impact</i> N/A		<i>Evidence of Impact</i> N/A		
Score =	0	1	2	3	4	5	6	7

Teacher Growth Guide 6.2

Standard 6: Effective Communication

Quality Indicator 2: Sensitivity to culture, gender, intellectual and physical differences

Emerging		Developing		Proficient		Distinguished		
6E2) The emerging teacher... Is aware of personal bias in regard to differences in culture, gender, intellectual, and physical ability in classroom and its impact on student learning.		6D2) The developing teacher also... Demonstrates and promotes sensitivity to differences in culture, gender, intellectual, and physical ability in classroom communication and in responses to students' communications.		6P2) The proficient teacher also... Helps students to develop a respect for all through sensitivity to cultural, gender, intellectual and physical ability differences in classroom communication.		6S2) The distinguished teacher also... Promotes a respect for all and sensitivity to cultural, gender, intellectual and physical ability differences throughout the school and community.		
Professional Frames								
<i>Evidence of Commitment</i> N/A		<i>Evidence of Commitment</i> N/A		<i>Evidence of Commitment</i> N/A		<i>Evidence of Commitment</i> N/A		
<i>Evidence of Practice</i> Exhibits understanding of and empathy toward student needs and differences and works to display sensitivity when responding to student needs		<i>Evidence of Practice</i> Demonstrates and promotes empathy and sensitivity to differences in culture, gender, intellectual, and physical ability in classroom communication and in responses to students' communications		<i>Evidence of Practice</i> Engages students in activities that develop respect for all and sensitivity to cultural, gender, intellectual and physical ability differences in classroom communication and beyond		<i>Evidence of Practice</i> Acts as a model in promoting a respect for all and sensitivity to cultural, gender, intellectual and physical ability differences throughout the school and community		
<i>Evidence of Impact</i> Student perceive that the teacher is sensitive to their needs		<i>Evidence of Impact</i> Student communication with their teacher is characterized by sensitivity		<i>Evidence of Impact</i> Students develop respect and sensitivity for all to cultural, gender, intellectual and physical ability differences		<i>Evidence of Impact</i> Students self-monitor their own and other's level of respect and sensitivity		
Score =	0	1	2	3	4	5	6	7

Teacher Growth Guide 6.3

Standard 6: Effective Communication

Quality Indicator 3: Learner expression in speaking, writing and other media

Emerging			Developing			Proficient			Distinguished		
6E3) The emerging teacher...			6D3) The developing teacher also...			6P3) The proficient teacher also...			6S3) The distinguished teacher also...		
Supports and expands learner expression in speaking, writing, listening, and other media ensuring it adheres to district policy.			Develops students in directing their own safe, free and respectful expression in speaking, writing, listening, and other media ensuring it adheres to district policy.			Promotes respect, safe and free expression in the school and the larger school community ensuring it adheres to district policy.			Shares with others strategies for promoting respect, safe and free expression in the school and the larger school community ensuring it adheres to district policy.		
Professional Frames											
Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A		
Evidence of Practice Classroom activities include learner expression in speaking, writing, listening and the use of other media			Evidence of Practice Classroom activities include multiple opportunities for learner expression in speaking, writing, listening and other media			Evidence of Practice Leads students in communication beyond their own particular classroom (other classrooms, school, larger community, other professionals, etc.)			Evidence of Practice Serves as a resource to others for the use of strategies for promoting respectful, safe and free expression		
Evidence of Impact Students expand their expression in speaking, writing, listening, and other media adhering to district policy			Evidence of Impact Students take advantage of opportunities to direct their own safe, free and respectful expression in speaking, writing, listening, and other media and adhering to district policy			Evidence of Impact Students promote respect, safe and free expression in the school and the larger school community adhering to district policy			Evidence of Impact Communication in the larger school community is respectful, safe and free and adheres to district policy		
Score =	0	1	2	3	4	5	6	7			

Teacher Growth Guide 6.4

Standard 6: Effective Communication

Quality Indicator 4: Technology and media communication tools

Emerging			Developing			Proficient			Distinguished		
6E4) The emerging teacher...			6D4) The developing teacher also...			6P4) The proficient teacher also...			6S4) The distinguished teacher also...		
Demonstrates knowledge and understanding of technology and media communication tools for purposeful instruction.			Implements instruction that encourages technology and media communication tools use for learning and models those techniques.			Facilitates the students' effective use of technology and media communication tools.			Either mentors, or assists students in mentoring, members of the school and community in the use of technology and media communication tools.		
Professional Frames											
Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A		
Evidence of Practice Regularly uses technology and media communication tools to enhance the learning process			Evidence of Practice Delivers instruction and models the use of technology and media communication tools to enhance learning			Evidence of Practice Uses strategies that engage students in effectively using technology and media communication tools			Evidence of Practice Is able to act as resource or assist colleagues and students in their use of technology and media communication tools		
Evidence of Impact Students use technology effectively during some instructional activities			Evidence of Impact Students effectively use technology and media communication tools to learn, as directed by the teacher			Evidence of Impact Students demonstrate understanding of how technology and media communication tools can enhance their learning and use these tools to effectively complete learning activities			Evidence of Impact Students effectively assist each other in their use of technology and media communication tools		
Score =	0	1	2	3	4	5	6	7			

Possible Sources of Evidence

Standard 6: Effective Communication

The teacher models effective verbal, nonverbal, and media communication techniques with students, colleagues and parents to foster active inquiry, collaboration, and supportive interaction in the classroom.

Professional Commitment			
<ul style="list-style-type: none"> Posted communications - bulletin boards, norms, routines, procedures, etc. Parent/community outreach materials Lesson plans/activities 	<ul style="list-style-type: none"> Email, newsletters, memos, websites, announcements, reports, etc. Student assignments/instructions 	<ul style="list-style-type: none"> Strategies for ELL Students Samples of effective communication 	<ul style="list-style-type: none"> Grade level/content area team meeting notes and agendas Professional development presentations and materials
Professional Practice			
<ul style="list-style-type: none"> Uses correct grammar in classroom communication and materials Promotes sensitivity to cultural, gender, intellectual, physical and emotional differences in communication Uses technology and media communication tools to engage students Facilitates positive and correct student communication 	<ul style="list-style-type: none"> Uses a variety of different strategies to enhance student literacy skills Provides many opportunities for students to practice effective communication Extends communication opportunities for students outside of the classroom Provides focused, objective, relevant, specific and purposeful feedback to students 	<ul style="list-style-type: none"> Uses strategies to assess the impact of their communication Communicates effectively with students, families, colleagues and others Enhances student literacy skills with impact beyond the classroom Facilitates student use of technology and media communication tools 	<ul style="list-style-type: none"> Assists other colleagues with effective, correct communication Models and shares technology and media communication tools to enhance student learning Serves as a resource for building student literacy skills
Professional Impact			
<ul style="list-style-type: none"> Student activities Performance assessments Student feedback/comments Student reflection/journals Formative assessment data 	<ul style="list-style-type: none"> Student work samples, portfolios, writing, etc. show correct communication Student expression (observation) Student self-assessment (observation or student work) 	<ul style="list-style-type: none"> Student data Student discussions Students selection and use of technology and media (observation, demonstration, or work sample) 	<ul style="list-style-type: none"> Non-instructional records of individual student progress Peer assistance data Antidotal data of student expression Staff survey

Teacher Growth Guide 7.1

Standard 7: Student Assessment and Data Analysis

The teacher understands and uses formative and summative assessment strategies to assess the learner's progress and uses both classroom and standardized assessment data to plan ongoing instruction. The teacher monitors the performance of each student and devises instruction to enable students to grow and develop, making adequate academic progress.

Quality Indicator 1: Effective use of assessments

Emerging	Developing	Proficient	Distinguished				
7E1) The emerging teacher... Demonstrates the use of formal and informal assessments to determine progress towards specific learning goals.	7D1) The developing teacher also... Effectively uses multiple formal and informal student assessments to address specific learning goals, including modifications for students with special needs.	7P1) The proficient teacher also... Identifies student's prior knowledge, progress during instruction and achievement at the end of an instructional unit to demonstrate individual and whole class learning.	7S1) The distinguished teacher also... Shares knowledge and expertise with others on the effective use of assessments to generate data demonstrating progress toward individual and whole class learning.				
Professional Frames							
<p>Evidence of Commitment Lesson design includes formal and informal assessments</p> <p>Evidence of Practice Creates and demonstrates the use of formal and informal student assessments which address specific learning goals and modifications</p> <p>Evidence of Impact N/A</p>	<p>Evidence of Commitment Lesson design includes multiple assessment modes and approaches</p> <p>Evidence of Practice Demonstrates effective use of a variety of formal and informal assessments to provide data about student status and progress before, during and after instruction</p> <p>Evidence of Impact N/A</p>	<p>Evidence of Commitment Lesson design includes assessing learner progress</p> <p>Evidence of Practice Accurately and consistently uses assessment data to describe the status and progress of each individual student and the class as a whole</p> <p>Evidence of Impact N/A</p>	<p>Evidence of Commitment Lesson design includes opportunities to monitor student growth and development</p> <p>Evidence of Practice Shares examples and information with others on how to effectively use assessments and base instructional decisions on student data</p> <p>Evidence of Impact N/A</p>				
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 7.2

Standard 7: Student Assessment and Data Analysis

Quality Indicator 2: Assessment data to improve learning

Emerging		Developing		Proficient		Distinguished		
7E2) The emerging teacher... Demonstrates basic strategies for accessing, analyzing and appropriately using information and assessment results to improve learning activities.		7D2) The developing teacher also... Reviews student trend data and growth in learning through a comparison of student work (i.e. pre-/post- test results or similar mechanisms) to inform instructional decisions.		7P2) The proficient teacher also... Uses tools such as rubrics, scoring guides, performance analyses, etc., that clearly identify the knowledge and skills intended for students to acquire in well-defined learning goals.		7S2) The distinguished teacher also... Is able to model and/or share information and expertise with others on the use of a wide variety of assessments and evidence that they improved the effectiveness of instruction.		
Professional Frames								
Evidence of Commitment N / A		Evidence of Commitment N / A		Evidence of Commitment N / A		Evidence of Commitment N / A		
Evidence of Practice Collects data information and assessment results for instructional planning and decision-making		Evidence of Practice Uses pre and post results or other comparison data to confirm growth in learning and impact future instructional decisions		Evidence of Practice Regularly uses rubrics, scoring guides and other forms of performance analysis to clearly articulate expectations to students		Evidence of Practice Serves as an informal resource to others on the effective use of a wide variety of assessments to improve instruction		
Evidence of Impact Students engage in learning goals that advance mastery of content		Evidence of Impact Individual students and the whole class advance in their learning		Evidence of Impact Students understand the learning objectives and set personal goals for learning		Evidence of Impact Colleagues improve their use of assessment data to positively impact learning		
Score =	0	1	2	3	4	5	6	7

Teacher Growth Guide 7.3

Standard 7: Student Assessment and Data Analysis

Quality Indicator 3: Student-led assessment strategies

Emerging		Developing		Proficient		Distinguished		
7E3) The emerging teacher... Uses assessment strategies and timely descriptive feedback to involve learners in some personal-goal setting and self-assessment activities		7D3) The developing teacher also... Purposefully teaches students to use assessment data to think about their own learning, including setting personal learning goals.		7P3) The proficient teacher also... Adjusts and adapts strategies for teaching students how to use assessment data in thinking about their own learning, including setting personal goals, based on unique student strengths, needs and learning styles.		7S3) The distinguished teacher also... Model for others how to provide timely descriptive feedback and the engaging of students in establishing personal learning goals, self-assessment, and using evidence to report on their own progress to the teacher, parents, and others.		
Professional Frames								
Evidence of Commitment N / A		Evidence of Commitment N / A		Evidence of Commitment N / A		Evidence of Commitment N / A		
Evidence of Practice Orientates students on the various formats of assessments and creates connections on how each assessment format demands particular types of knowledge/skills		Evidence of Practice Instructs students on how to reflect on their own learning as a result of data from various assessment strategies and set personal learning goals		Evidence of Practice Demonstrates adjustments and adaptations for facilitating students' use of assessment data to impact their own learning		Evidence of Practice Can present or act as a resource on how students can engage in self-assessment strategies including the use of evidence to report on their own progress to the teacher, parents, and others		
Evidence of Impact Students are prepared for the demands of particular assessment formats		Evidence of Impact Students think about their own learning, including setting personal goals		Evidence of Impact Students report on their own progress to the teacher, parents, and others		Evidence of Impact Colleagues improve their capability in facilitating student-led assessment strategies		
Score =	0	1	2	3	4	5	6	7

Teacher Growth Guide 7.4

Standard 7: Student Assessment and Data Analysis

Quality Indicator 4: Effect of instruction on individual/class learning

Emerging			Developing			Proficient			Distinguished		
7E4) The emerging teacher...			7D4) The developing teacher also...			7P4) The proficient teacher also...			7S4) The distinguished teacher also...		
Observes the effect of class instruction on individual and whole class learning.			Collects relevant information and data about current instruction to plan future instruction.			Engages in ongoing assessment of progress of individual students and whole class in order to advance each individual's learning of instructional objectives through modifications to instructional strategies.			Is capable of modeling for others the use of ongoing, consistent assessment throughout the instructional process to gather data about the effect of instruction to enhance individual and class achievement.		
Professional Frames											
Evidence of Commitment <i>Class instruction is designed to impact learning</i>			Evidence of Commitment <i>Planning for class instruction is based on data from previous learning</i>			Evidence of Commitment <i>Instruction design is modified based on data from previous learning</i>			Evidence of Commitment <i>Lesson design includes ongoing, consistent assessments</i>		
Evidence of Practice <i>Collects information through observation of classroom interactions, higher order questioning, and analysis of student work</i>			Evidence of Practice <i>Uses data and information to reflect on and plan for future lessons, adjusting and modifying as necessary</i>			Evidence of Practice <i>Modifies instruction based on observation data and monitors to confirm impact</i>			Evidence of Practice <i>Acts as a resource and/or models for others the use of seamless assessment to improve the overall learning process</i>		
Evidence of Impact N / A			Evidence of Impact N / A			Evidence of Impact N / A			Evidence of Impact N / A		
Score =	0	1	2	3	4	5	6	7			

Teacher Growth Guide 7.5

Standard 7: Student Assessment and Data Analysis

Quality Indicator 5: Communication of student progress and maintaining records

Emerging			Developing			Proficient			Distinguished		
7E5) The emerging teacher...			7D5) The developing teacher also...			7P5) The proficient teacher also...			7S5) The distinguished teacher also...		
Communicates general information about student progress knowledgeably, responsibly, and ethically based on appropriate indicators, to students, families, and/or colleagues.			Uses evidence to communicate student progress, knowledgeably and responsibly, based on appropriate indicators.			Uses holistic evidence from multiple data points to detail student achievement continuously throughout instruction.			Is able to mentor colleagues in the use of student performance evidence and managing records to effectively communicate student progress.		
Professional Frames											
Evidence of Commitment <i>Records are in order and up-to-date</i>			Evidence of Commitment <i>Current, accurate information is maintained on each student's status and progress</i>			Evidence of Commitment <i>Plans for accurate and timely feedback based on multiple data points</i>			Evidence of Commitment <i>Models strategies to keep accurate records and information</i>		
Evidence of Practice <i>Maintains confidential records of student work and performance to use when communicating student status and progress</i>			Evidence of Practice <i>Communicates accurate status, progress and supporting evidence effectively on student mastery of content and skills</i>			Evidence of Practice <i>Collects and uses feedback from multiple sources to determine a student's status and progress and uses this to assist students in monitoring their own growth</i>			Evidence of Practice <i>Can present or act as a resource on maintaining records and the accurate use of data when communicating student progress</i>		
Evidence of Impact N / A			Evidence of Impact N / A			Evidence of Impact N / A			Evidence of Impact N / A		
Score =	0	1	2	3	4	5	6	7			

Teacher Growth Guide 7.6

Standard 7: Student Assessment and Data Analysis

Quality Indicator 6: Collaborative data analysis

Emerging	Developing	Proficient	Distinguished				
7E6) The emerging teacher... Engages in a collaborative process of data analysis with colleagues at the grade, department and school level.	7D6) The developing teacher also... Works in teams to share and analyze data to measure accomplishment of curricular goals to inform grade-department level and/or school-wide decisions.	7P6) The proficient teacher also... Helps to establish, maintain and/or participate in professional learning communities to share and analyze data to measure accomplishment of curricular goals and plan for curricular modification.	7S6) The distinguished teacher also... Acts in a leadership position when working in teams to share and analyze data to measure accomplishment of curricular goals and to use this information to inform his/her instruction.				
Professional Frames							
Evidence of Commitment <i>Maintains data analysis information</i>	Evidence of Commitment <i>Bases lesson design on data analysis</i>	Evidence of Commitment <i>Can model how lesson design in positively impacted by data analysis</i>	Evidence of Commitment <i>Plans for participating in a professional learning community activities</i>				
Evidence of Practice <i>Attends meetings with other colleagues, participates in data team training or works with a mentor on data analysis</i>	Evidence of Practice <i>Participates in meetings with other colleagues regarding data analysis and uses information or collective decisions to inform practice</i>	Evidence of Practice <i>Participates and helps lead meetings with other colleagues regarding data analysis and assists with follow-up with colleagues on impact of using data on practice</i>	Evidence of Practice <i>Acts as a leader in the development and operation of a professional learning community in the school and in assisting others in their understanding of data analysis</i>				
Evidence of Impact <i>N/A</i>	Evidence of Impact <i>N/A</i>	Evidence of Impact <i>N/A</i>	Evidence of Impact <i>N/A</i>				
Score = 0	1	2	3	4	5	6	7

Possible Sources of Evidence

Standard 7: Student Assessment and Data Analysis

The teacher understands and uses formative and summative assessment strategies to assess the learner’s progress, uses assessment data to plan ongoing instruction, monitors the performance of each student and devises instruction to enable students to grow and develop.

Professional Commitment			
<ul style="list-style-type: none"> Unit instructional plan including assessment Tiered/differentiated lesson designs Tiered/differentiated assessments Lessons/units amended based on data analysis (examples of both) 	<ul style="list-style-type: none"> Example of analysis of student learning needs Formal/information assessments Instructional/assessment record management system Scoring guides/rubrics Student progress reports 	<ul style="list-style-type: none"> Examples of communication/feedback to students about their work/progress Communication logs to parents/guardians Sample parent response sheets Parent/guardian communication examples 	<ul style="list-style-type: none"> Presentation materials Professional development attendance record/sign-in sheet Mentor log Grade level/content area meeting notes and agenda Building/district professional learning community log/agenda
Professional Practice			
<ul style="list-style-type: none"> Uses a variety of formal/informal methods of assessment Utilizes individual student assessment data to plan differentiated learning activities Maintains a comprehensive instructional/assessment system charting individual student growth and performance 	<ul style="list-style-type: none"> Designs, develops, and/or utilizes pre and post tests to identify prior knowledge and chart progress Reviews student trend data Communicates clearly to students the learning goals (rubrics/scoring guides) 	<ul style="list-style-type: none"> Utilizes observation data to modify instruction and monitor impact Communicates student progress to parents/guardians using performance and behavior data Assists students in charting their own progress and goal setting 	<ul style="list-style-type: none"> Adjusts instruction to maximize student learning Shares knowledge and expertise with colleagues Models effective assessment practices to enhance individual and class achievement Participates in data team training or works with mentor on data analysis
Professional Impact			
<ul style="list-style-type: none"> Samples of student directed goal statements Samples of pre- and post assessments Assessment data guides decisions about specific learning goals Data information and assessment results 	<ul style="list-style-type: none"> Samples of progress reports using concrete student data Evidence of changed practice Instructional records of individual student progress Samples of students charting their own progress 	<ul style="list-style-type: none"> Student work samples: projects, products, presentations, etc. Running Records or Running Charts Feedback from colleagues Feedback from parents/guardians Professional growth plan 	<ul style="list-style-type: none"> Evidence of individual student growth/performance Parent-teacher conference participation Behavioral referral data RTI, IEP, or 504 plan conference participation

Teacher Growth Guide 8.1

Standard 8: Professionalism

The teacher is a reflective practitioner who continually assesses the effects of choices and actions on others. The teacher actively seeks out opportunities to grow professionally in order to improve learning for all students.

Quality Indicator 1: Self-assessment and improvement

Emerging		Developing		Proficient		Distinguished	
8E1) The emerging teacher... Generally uses self-assessment and problem-solving strategies to reflect on practice in order to influence students' growth and learning.		8D1) The developing teacher also... Consistently engages in reflective practice and consistently applies this to his/her instructional process and to modify future instruction.		8P1) The proficient teacher also... Continuously engages in a variety of self-assessment and problem-solving strategies which have implications for student growth and learning, within the classroom and the larger school environment.		8S1) The distinguished teacher also... Models and/or serves as a mentor, in how to engage in reflective practice and in the use of, policies about, and training for using assessment data and other sources of information about student performance.	
Professional Frames							
Evidence of Commitment <i>Professional development plan documents self-assessment and reflection strategies</i>		Evidence of Commitment <i>Professional development plan documents ongoing self-assessment and reflection strategies</i>		Evidence of Commitment <i>Documents reflections on his/her instructional process and results that impact future planning</i>		Evidence of Commitment <i>Can provide direction and mentoring on maintaining effective professional development plans</i>	
Evidence of Practice <i>Engages in self-assessment and problem solving on improving their overall impact on student learning</i>		Evidence of Practice <i>Observations and conferences indicate attention to reflective practice and professional improvement</i>		Evidence of Practice <i>Uses reflections to direct future instruction and monitors the progress and evaluates results</i>		Evidence of Practice <i>Evidence of leadership in data teams, grade-level or vertical teaming and in working with colleagues to become a reflective practitioner</i>	
Evidence of Impact N / A		Evidence of Impact N / A		Evidence of Impact N / A		Evidence of Impact N / A	
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 8.2

Standard 8: Professionalism

Quality Indicator 2: Professional learning

Emerging		Developing		Proficient		Distinguished	
8E2) The emerging teacher... Is aware of and utilizes resources available for professional learning.		8D2) The developing teacher also... Applies knowledge gained from a variety of sources to the benefit of students in the classroom.		8P2) The proficient teacher also... Shares new knowledge and expertise with colleagues to benefit the learning of students in multiple classrooms.		8S2) The distinguished teacher also... Evaluates, procures and creates resources for professional development and actively participates in professional development in the larger professional community.	
Professional Frames							
Evidence of Commitment <i>A Professional Growth Plan has been developed that documents focus and priority areas</i>		Evidence of Commitment <i>Professional Growth Plan documents applied knowledge and new strategies for the classroom</i>		Evidence of Commitment <i>Professional Growth Plan documents strategies to share expertise and new strategies for the classroom</i>		Evidence of Commitment <i>Can demonstrate how Professional Growth Plans are documentation of improvement, growth and applied learning</i>	
Evidence of Practice <i>Uses mentor as a source of information and becomes aware of available professional learning resources</i>		Evidence of Practice <i>Practices in the classroom are impacted by new learning outside the classroom</i>		Evidence of Practice <i>Uses new learning to impact instruction and assessment with students and shares outcome with colleagues</i>		Evidence of Practice <i>Works on a review team or participates in the professional development committee to impact overall learning in the building</i>	
Evidence of Impact N / A		Evidence of Impact N / A		Evidence of Impact N / A		Evidence of Impact N / A	
Score = 0	1	2	3	4	5	6	7

Teacher Growth Guide 8.3

Standard 8: Professionalism

Quality Indicator 3: Professional rights, responsibilities and ethical practices

Emerging		Developing		Proficient		Distinguished	
8E3) The emerging teacher... Demonstrates professionalism and ethical behavior by adhering to the code of conduct and aligning classroom practices to district policies and school procedures.		8D3) The developing teacher also... Consistently exhibits professionalism in all situations and ensures that classroom practices align to district policies and school procedures.		8P3) The proficient teacher also... Assists colleagues by consistently modeling professionalism throughout the school and district and the broader community.		8S3) The distinguished teacher also... Influences the framing, revision and advocating of policies and procedures that promotes ethical and professional behavior of all educators.	
Professional Frames							
<i>Evidence of Commitment</i> Maintains information on school procedures and policies		<i>Evidence of Commitment</i> Classroom structures and routines comply with school and district policies and procedures		<i>Evidence of Commitment</i> Maintains appropriate mentor and/or peer documentation (where applicable)		<i>Evidence of Commitment</i> Prepares and documents committee work	
<i>Evidence of Practice</i> Adheres to all current school procedures and district policies as stated in the school's code of conduct		<i>Evidence of Practice</i> Manages behavior, maintains records, etc in accordance with district policies and school procedures		<i>Evidence of Practice</i> Is appropriately knowledgeable on policies and procedures to serve as a resource, peer observer and/or mentor to ensure alignment and compliance of colleagues practice to policies and procedures		<i>Evidence of Practice</i> Participates in committees, represents the school at district level and/or organization meetings that review and revise policies and procedures	
<i>Evidence of Impact</i> N/A		<i>Evidence of Impact</i> N/A		<i>Evidence of Impact</i> N/A		<i>Evidence of Impact</i> N/A	
Score = 0	1	2	3	4	5	6	7

Possible Sources of Evidence

Standard 8: Professionalism

The teacher is a reflective practitioner who continually assesses the effects of choices and actions on others. The teacher actively seeks out opportunities to grow professionally in order to improve learning for all students.

Professional Commitment			
<ul style="list-style-type: none"> Lesson planning Evaluation data Professional development request list Mentor log/agenda/notes List of resources Posted procedures/policies Professional growth plan 	<ul style="list-style-type: none"> New student activities Behavior management plans and lesson plans Attendance data, classroom rules, etc. Coaching/Modeling log Presentation artifacts – agenda, hand outs, video 	<ul style="list-style-type: none"> Building/District committee Participation - preparation and documentation (professional development, PLC, etc.) Professional Membership and /or committee leadership (documentation) Professional development attendance log/artifacts 	<ul style="list-style-type: none"> Regional or State Committee participation (documentation) Meeting log, agenda, and notes supporting participation on data team, grade-level, vertical team or other Reflective journal
Professional Practice			
<ul style="list-style-type: none"> Demonstrates the capacity to reflect on and improve their own practice Uses new learning to positively benefit student learning Shares new knowledge and expertise with colleagues Actively pursues professional development and learning opportunities 	<ul style="list-style-type: none"> Creates, evaluates, and procures resources for professional development Builds expertise and experience to assume different instructional or leadership roles Collaborates with colleagues on a wide range of tasks and committees 	<ul style="list-style-type: none"> Participates in school-wide decision making Serves as an active member on the school improvement planning committee Participates or chairs the Professional Development Committee 	<ul style="list-style-type: none"> Serves as a mentor, model or coach for colleagues Maintains all required documentation Follows school and district policies and procedures

Teacher Growth Guide 9.1

Standard 9: Professional Collaboration

The teacher has effective working relationships with students, families, school colleagues, and community members.

Quality Indicator 1: Induction and collegial activities

Emerging		Developing		Proficient		Distinguished		
9E1) The emerging teacher...		9D1) The developing teacher also...		9P1) The proficient teacher also...		9S1) The distinguished teacher also...		
Engages in supporting the school's vision, mission, values and goals, participates in curriculum and staff development, and works with their trained mentor to strengthen relationships in the school and community.		Contributes to achieving the mission, vision, values and goals, including monitoring and evaluating progress toward these goals, and other school improvement efforts.		Actively engages in relationship building efforts in the school, district and community and contributes and shares knowledge and expertise in order to assist in the collective improvement of professional practice.		Informally (or formally as a mentor) is available as a resource to colleagues in the school and/or district in achieving a shared mission, vision, values and goals and relationship building efforts through collegial activities and the induction process.		
Professional Frames								
Evidence of Commitment <i>Documents support and growth in mentor logs and aligned to the state's mentor standards</i>		Evidence of Commitment <i>Maintains mentor logs document support and growth and aligned to the state's mentor standards</i>		Evidence of Commitment <i>Professional Growth Plan is documentation of the mentor training</i>		Evidence of Commitment <i>Mentor logs document work with new teachers</i>		
Evidence of Practice <i>Meets regularly with a mentor and fully participates in the district/school induction process</i>		Evidence of Practice <i>Contributes to supporting progress on the mission, vision and goals and uses their mentor and other colleagues to strengthen relationships with students, families and other staff</i>		Evidence of Practice <i>Demonstrates positive relationships with all colleagues, parents and families and actively participates in the improvement of practice</i>		Evidence of Practice <i>Is trained on the state's mentor standards and is able to mentor new staff and serves as a resource to colleagues on issues related to mission, vision and goals and assist with assessing the progress or revising the mission, vision and goals</i>		
Evidence of Impact N / A		Evidence of Impact N / A		Evidence of Impact N / A		Evidence of Impact N / A		
Score =	0	1	2	3	4	5	6	7

Teacher Growth Guide 9.2

Standard 9: Professional Collaboration

Quality Indicator 2: Collaborating to meet student needs

Emerging		Developing		Proficient		Distinguished		
9E2) The emerging teacher...		9D2) The developing teacher also...		9P2) The proficient teacher also...		9S2) The distinguished teacher also...		
Identifies ways to work with others across the system to provide needed services to support individual learners.		Works with colleagues and administrators at the school level and in the larger professional community to develop strategic, school-based systems to address student needs.		Consistently works with colleagues and administrators to develop strategic, school-based systems to address student needs and assists in monitoring the effectiveness of those systems.		Is capable of taking a leadership role or serving as an informal resource in working with the larger professional community in how to work with others across the system to identify and provide needed services to support individual learners.		
Professional Frames								
Evidence of Commitment N / A		Evidence of Commitment N / A		Evidence of Commitment N / A		Evidence of Commitment N / A		
Evidence of Practice <i>Works collaboratively with colleagues to build relationships and begins to understand services and support needed in the school</i>		Evidence of Practice <i>Participates with other colleagues in a professional community structure and meetings to examine needs and services necessary for student success</i>		Evidence of Practice <i>Is an active and engaged member of the professional learning community within the school and works to establish strategies that address the needs and services needed in the school</i>		Evidence of Practice <i>Actively leads in the implementation and evaluation of strategies that address needs and services in the school</i>		
Evidence of Impact N / A		Evidence of Impact N / A		Evidence of Impact N / A		Evidence of Impact N / A		
Score =	0	1	2	3	4	5	6	7

Teacher Growth Guide 9.3

Standard 9: Professional Collaboration

Quality Indicator 3: Cooperative partnerships in support of student learning

Emerging			Developing			Proficient			Distinguished		
9E3) The emerging teacher... Develops relationships with colleagues and cooperative partnerships with students and families to support students' learning and well-being.			9D3) The developing teacher also... With colleagues, creates and cultivates new partnerships with students, families and community members to support students' learning and well-being.			9P3) The proficient teacher also... Consistently engages with colleagues and administrators at the school and district level to develop, maintain and further partnerships with students, families and community members to support students' learning and well-being.			9S3) The distinguished teacher also... Takes an active leadership role or serve as an informal resource at the school and district level in developing partnerships with students, families and community members to support students' learning and well-being.		
Professional Frames											
Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A			Evidence of Commitment N / A		
Evidence of Practice <i>Engages in opportunities to develop relationships with students, families and the community and works to understand concerns and needs regarding student learning and well-being</i>			Evidence of Practice <i>Demonstrates regular engagement with students, families and the community to cultivate new partnerships and explores ways to assess the impact of the partnerships</i>			Evidence of Practice <i>Has ongoing partnerships with students, families and communities and regularly evaluates the effectiveness of partnerships and modifies as needed</i>			Evidence of Practice <i>Serves in a leadership role in developing partnerships with students, families and the community and advocates for changes that support student learning and well-being</i>		
Evidence of Impact N / A			Evidence of Impact N / A			Evidence of Impact N / A			Evidence of Impact N / A		
Score =	0	1	2	3	4	5	6	7			

Possible Sources of Evidence

Standard 9: Professional Collaboration

The teacher has effective working relationships with students, parents, school colleagues, and community members.

Professional Commitment			
<ul style="list-style-type: none"> Mentor log Vision, mission and goals posted or accessible Professional Growth Plan School services and needs Professional learning log (PD, research, journal articles, etc.) Newsletters Parent/Community activities planned 	<ul style="list-style-type: none"> Professional Development Committee member or Chair - documentation of participation Participates in professional learning community structure and meetings (meeting/ attendance log; meeting notes; documented discussions/recommendations) Student activity sponsor log Parent/community contact log 	<ul style="list-style-type: none"> Attendance at school-wide functions (concerts, plans, family reading nights, sports events, etc.) - log Mentor training log Reflective journal Documented strategies for parent/community outreach Example student, parent, colleague, and community surveys 	<ul style="list-style-type: none"> Documentation of leadership roles Various meetings - notes and agendas Documented recommendations or changes Participate in parent conferences, parent-teacher organizations, etc. (log or documentation)
Professional Practice			
<ul style="list-style-type: none"> Builds relationships with colleagues Participates as a member of the professional learning community within the school Assists with assessing the progress or revising the mission, vision and goals Advocates for changes that support student learning and well-being 	<ul style="list-style-type: none"> Participates in school-wide activities and events (parent conferences, parent teacher org, etc.) Serves as a mentor for colleagues Implements and evaluates partnership strategies Sponsors student activities Creates school-community partnerships 	<ul style="list-style-type: none"> Welcomes and encourages family/community classroom participation and support. Collaborates with families to support student learning and development. Engages in two-way culturally appropriate communication with families and communities Serves as the point-of-contact or school-based resource in developing partnerships 	<ul style="list-style-type: none"> Mentors and models strategies for outreach Shares new information and learning with colleagues Conducts meetings and learning sessions for parents /community Provides opportunities for parents/community members to participate in classroom activities

<https://dese.mo.gov/sites/default/files/02-GrowthGuide.pdf>