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Effect of Differentiated Instruction on Reading Comprehension of Third Graders

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Deborah Davidsen

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Walden University
2018

Abstract

Effect of Differentiated Instruction on Reading Comprehension of Third Graders

by

Deborah L. Davidsen

MA, Wayland Baptist University, 2013

MA, Eastern New Mexico University, 2004

BS, The University of The Incarnate Word, 1998

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

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November 2018

Abstract

The performance measures from the Progress in International Reading Literacy Study revealed no measurable growth in the U.S. average reading scores of 4th graders for the period between 2011 and 2016. Therefore, the diverse learning needs of students need to be customized if the education system is to accomplish its goal to graduate well-informed individuals capable of sustaining a lifestyle conducive to a democratic society. The purpose of this study was to investigate the effect of differentiated instruction on 3rd graders' reading comprehension. The theoretical foundation for this teaching approach was Vygotsky's zone of proximal development. The research question focused on a comparison of differentiated and nondifferentiated instruction and the effects on 3rd graders' Partnership for Assessment of Readiness for College and Careers (PARCC) reading comprehension scores. In this cross-sectional, quasi-experimental causal comparative study with $N = 128$ 3rd-grade students, archival PARCC reading scores for the years 2015, 2016, and 2017 were analyzed with several 2-tailed independent sample t tests to determine the differences between the groups. The students in the experimental group ($n = 64$) received differentiated instruction, students in the non-experimental group received nondifferentiated instruction ($n = 64$). The duration of the intervention lasted for the entire school year. The statistical analysis results revealed that differentiated instruction significantly improved the students' PARCC reading scores in all 3 years. The intimation for positive social change is allowing stakeholders to provide opportunities to teachers to learn and apply differentiated instruction for their students, thus helping them to become proficient readers, which in turn might increase the human capital contributing to and competing in a global society.

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Dedication

To my husband, Paul Davidsen, my cheerleader, my best friend, and a loving man. I am forever grateful for your unwavering belief in me and my ability to endeavor and persevere through the doctoral program.

To my daughter, Krista Anderson, my best friend, my confidant, my greatest accomplishment in life. I am thankful for your support and encouragement throughout this journey. I did it; now it's your turn, baby!

Acknowledgments

The greatest pleasure in life is accomplishing what others say you cannot. I want to thank my God, my Lord, and Savior, for helping me endure and persevere through my moments of self-doubt. I am reminded of 2 Timothy 1:7, “For the Spirit God gave us does not make us timid, but gives us power, love, and self-discipline.” Pursuing a doctorate is indeed not for the timid. The journey requires a strong and determined resolve, fueled by the love of so many, and the mindset to see this journey to fruition. I would like to thank my husband and daughter for helping me maintain my eye on the prize. Special thanks to my instructors for their support and encouragement throughout this journey from the beginning until the end. I must acknowledge my chair, Dr. Markus Berndt, for his expertise and guidance as he gently nudged me through the final stages. I would be remiss if I did not acknowledge my second chair and URR. Thank you, Dr. Nicolae Nistor and Dr. Beate Baltes for your support, advice, and suggestions throughout the writing process. Last, but certainly not least, I want to thank the naysayers, who, without their negative energy, I would not have been able to transform their loss of faith in my abilities to complete the triple crown of education. I love how karma works, man!

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Chapter 1: Introduction to the Study

The National Assessment of Educational Progress (NAEP) reported no significant change in fourth graders' reading comprehension level from 1998 to 2017, with 46% scoring below the Basic performance level (National Center for Education Statistics ([NCES], 2013). The performance measures from the Progress in International Reading Literacy Study (PIRLS) revealed no measurable growth in the United States' average reading scores for fourth graders for a 6-year period (2011-2016). The United States' fourth graders performed at or above 35 of the 50 participating education systems in 2016 (NCES, 2013). In New Mexico, the state in which I conducted the study, 46% of the fourth graders scored at the Basic level in 2017, which is not significantly different from the 1998 results of 49% (NCES, 2013). These statistics illustrate the existence of a literacy problem that needs to be addressed not only in New Mexico but also in the United States.

Reading is essential to learning (Fisher & Frey, 2014). Because reading is a developmental process, children must not only have the skills and abilities to navigate through an increasingly arduous sequence of tasks, but also have the opportunity to interact and learn from their teacher, peers, and the text (Hernandez, 2011). One of the primary responsibilities of elementary teachers is to teach students to learn to read and read fluently with comprehension. The public-school systems report that many elementary, middle, and high school students perform below the state literacy standard, "meets" or "exceeds" reading level. When the first-year PARCC was administered in 2015, the reading scores indicated that approximately one-third of all fourth graders

scored at or above the "proficiency" level on the NAEP (Kena, Hussar, McFarland, DeBrey, & Musu-Gillette, 2016).

The importance of understanding the nature of effective reading instruction in the primary grades cannot be overstated (Ankrum, Genest, & Morewood, 2017). This study is needed to help teachers that do not have the background or training they need to access and implement research-based reading instruction. A student's academic progress is profoundly shaped by the ability to understand what is read. Students who cannot understand what they read are not likely to acquire the skills necessary to participate in the 21st-century workforce (Eret, Gokmenoglu, & Engin-Demir, 2013). In the following chapter, I will address the literacy problem in New Mexico, summarize an extensive review of literature related to the effects differentiated instruction has on third-graders' reading scores, address and describe the gap in practice, and conclude with reasons why the study is timely and necessary.

Background

Third grade is a pivotal point in a child's education (Hernandez, 2011). Third graders are required to have not only the basic reading and writing skills, but they must also be able to apply those skills in their English class, and in a variety of academic contexts in mathematics, social studies, science, and the arts. Up until this point, the third graders learn to read by mastering phonics, recognizing sight words, learning vowel and consonant blends, and building fluency. The next level of reading instruction begins in the fourth grade, requiring the students to read to learn using context clues to infer, summarize, and paraphrase informational and expository texts (McNamara, Ozuru, &

Floyd, 2011). The students entering the fourth grade without a solid foundation in grades K-3 predictably will struggle with reading and not maintain their level of reading comprehension compared to their peers (Moller, Jorgensen, & Holmen, 2014).

Studies conducted by the National Center for Educational Statistics (NCES) (2013) and The National Institute of Child Health and Human Development (NICHD) (2000) concluded that all but 2% to 5% of students might experience success when learning to read if taught correctly. The first statistic established by these departments and noted by O'Neal (2011) is almost two in three fourth graders in the United States cannot read at grade level. The second statistic shows average reading scores for fourth-grade public school students are lower today than they were 20 years ago despite ongoing efforts to provide a quality education for all students. If the trend of poor reading scores continues, illiteracy will cost the United States more than $225 billion a year in lost productivity (O'Neal, 2011).

The third-grade students' reading statistics could serve as a call to action by the school and community stakeholders. A concerted effort led by a coalition composed of child advocates, counselors, teacher leaders, parents, administrators, and community leaders from local businesses, faith, and military may help to produce a skilled and educated workforce prepared to contribute to and sustain a 21st-century global community.

The fourth-grade slump, a term familiar with educators for more than 50 years and recently referenced by Moller et al. (2014), is a term used to describe a student's loss of interest in reading between the fourth grade and fifth grade describes the phenomenon

students experience as the focus of instruction shifts from learning to read to reading to learn. Third graders, on average, are nearing the state's literacy standards. On the other hand, students, as early as the fourth grade, are not achieving the same level of academic improvement. In 2015, the fourth-graders' reading scores from the Eastern part of New Mexico range from 16.5% to 35%. In 2016, their scores range from 7% to 43%; and in 2017, their scores range from 29% to 50%.

An explanation offered by McNamara et al. (2011) contributed to the discussion that the fourth-grade slump is due, in part, to the gap between the readers' prior knowledge and the complexity of the informational text required of students in the fourth grade. Part of the process of reading to learn requires the young readers to decode words and make inferences. Readers experiencing difficulty decoding words will have difficulty with reading comprehension. Without coherent clues or text-connecting inferences, the readers are unable to determine the main idea and explain how the author supports it in the text. McNamara et al. (2011) asserted that direct instruction and teacher modeling is a necessary part of the student's learning process.

As a whole, the package of differentiated instruction lacks empirical evidence whereby the results are observed by the senses through classroom observations or experiments (Halpin & Kieffer, 2015). Ample studies have been conducted, but a lack of examples exist of the use and effectiveness of the differentiated model in practice in the Eastern portion of New Mexico.

The PARCC, is a state-mandated annual high-stakes assessment designed to measure student achievement, based on the Common Core State Standards (CCSS) in

English Language Arts (ELA) and Mathematics (NMPED, 2015). *Proficiency*, as defined by Skandera (2016), is measured by a benchmark score on a criterion-based reading assessment (learning standards).

Third grade is the benchmark predicting the students' success rate in future grades. Students not performing at the proficiency level (Level 3 on a scale of 1 to 5) by the end of the third grade are predicted to experience an increase in frustration and difficulty with their communication skills (i.e., listening, speaking, reading, and writing) and may face challenges with reading comprehension due to a limited knowledge of academic vocabulary (Hernandez, 2011). Students experiencing reading difficulties are less likely to have an adequate knowledge foundation and vernacular necessary for understanding informational and literary texts in their core discipline classes, lending necessity and relevance to the present study.

Problem Statement

According to Wagner (2014), schools are graduating a growing number of students who will be incapable to compete in a global labor market. The root problem, according to Wagner (2014), is the students' weak performance in basic literacy skills in reading, writing, speaking, viewing, listening, computing, and critical thinking. The problem extends well beyond the state level. Low literacy skills are pervasive beginning at the global level. The basic responsibility for any school system is to develop sound literacy skills. All of the postsecondary and vocational training will not compensate for a lack of basic literacy skills. The time to start addressing these deficits is not at the middle or high school levels, but at the elementary levels (Wagner, 2014).

Looking at the problem, low reading skills, from a global perspective, there are 38 countries in the Organization for Economic Cooperation and Development (OECD). The U.S. ranks 27th in mathematics, 17th in reading, and 20th in science (OCED, 2016). The quality of the public-school systems in the United States varies from state to state. New Mexico currently ranks 49th of the 50 states when reporting their students' academic growth and progress (Kena et al., 2016).

The general problem that I investigated in this study is that students within the ENMEC are reading below their grade level and have a limited knowledge of academic vocabulary. More specifically, despite the positive trend of the third grade schools' reading scores, an increasing number of students are not achieving the state literacy standard (meets or exceeds) and pose a detriment to the sustainment of today's society. I need to determine which differentiated instructional strategies elementary teachers use and the effects they have on third-grade students' reading comprehension to better inform the elementary school, middle school, and high school teachers' instructional approaches (Kelsey & Carlisle, 2013).

The PARCC reading score levels, ranging from "below basic" to "advanced" of the rural school districts in the Eastern part of New Mexico, indicate a problem (lopsidedness) with the reading instruction which is consistent with the average achievement level percentages and reading scores of fourth-grade students in New Mexico. In 2015, 23% (19% proficient and 4% advanced) of fourth graders were performing at or above the proficient level compared with 25% (19% proficient and 5% advanced) in 2017. According to the New Mexico education secretary, Ruszkowski,

although two in three students in Grades 3 to 11 are not yet proficient in reading, there is a slight measurable growth in reading scores from 2015 (NCES, 2017). The average reading score for fourth graders in New Mexico for 2015 was 207, and in 2017 the average reading score was 208. The scores indicate a slight improvement within the state but still reflect a significant gap when compared to the nation's average reading score for fourth graders at 221 (NCES, 2017).

Purpose of the Study

My focus in this quantitative study is to investigate the effect of two instructional strategies on third-grade students' reading comprehension. My intention was to add to the existing empirical evidence about the effect differentiated instruction has on third graders' PARCC reading comprehension scores and offer differentiated instructional strategies for struggling third graders (Connor et al., 2014).

This quantitative study has one independent variable with two levels: (1) differentiated instruction, which requires the teacher to provide the opportunity for students to collaborate, share their knowledge, and their tasks with their peers; and (2) nondifferentiated instruction that is structured, sequenced, and led primarily by the teacher. The dependent variable is students' reading comprehension as measured by PARCC reading comprehension scores.

Research Question and Hypotheses

In this study, I investigated the effect of differentiated instruction on the reading comprehension of students attending third grade in the ENMEC. More specifically, I questioned whether a significant difference existed between differentiated instruction and

nondifferentiated instruction as measured by the students' PARCC reading comprehension scores.

I explored the following research question:

RQ: What is the difference in PARCC reading comprehension scores between third-grade students who participated in differentiated instruction and third-grade students who participated in nondifferentiated instruction?

H_0: There is no significant difference in PARCC reading comprehension scores of third-grade students who were exposed to differentiated instruction compared to third-grade students who were exposed to nondifferentiated instruction.

H_A: There is a significant difference in PARCC reading comprehension scores of third-grade students who were exposed to differentiated instruction compared to third-grade students who were exposed to nondifferentiated instruction.

Theoretical Foundation

According to Creswell (2012), theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge. Vygotsky's zone of proximal development (ZPD) theory's origin and source are grounded in social learning which according to the theory, precedes individual cognitive development. In other words, higher mental processes in the individual have their origin in social processes (Vaughn, Parsons, Gallagher, & Branen, 2015; Vygotsky, 1978).

The theoretical framework for my study was based on Vygotsky's zone of proximal development theory (1978). Vygotsky used the theory to study the development of higher forms of cognitive activity during a child's development from childhood to

adulthood (Vygotsky, 1978). This theory indicates that children initially acquire knowledge through contacts and social interactions with their parents followed by the child assimilating the newly acquired knowledge to something familiar and meaningful to their needs, interests, and abilities (Vygotsky, 1978). The ZPD theory refers to a level of development attained when students engage in social behavior. The ZPD theory is identified as the distance between the students' actual growth and their potential development. In essence, the ZPD links that which is known to that which is unknown.

Grounded in Vygotsky's ZPD theory, is the use of direct reading instruction. The term, direct reading instruction, in and of itself, has been used to encompass a plethora of explicit instructional and learning strategies. Rather than focus on a broad term to determine whether one strategy works better than another, Antonacci (2000) suggested a shift in focus from the resources alone to focus on the role of teachers to guide, encourage, and challenge students' ideas using a variety of methods to not only provide opportunities to learn from each other but to assist young readers to be actively engaged and interested in the learning process. During guided instruction, according to Antonacci (2000), the teacher is acquiring knowledge of the students' reading performance. From that point, the teacher can stretch the students' learning process slightly above their current skill level(s).

Unger (2011) and Vygotsky (1987) suggested that a child's development is less biologically determined as it is socially facilitated meaning that a child's physical and emotional developments are not dependent solely on their parents, but also on the social interaction within the community. Keeping a focus on how young learners progress from

one cognitive level to the next should prove to be consistent with Vygotsky's sociocultural theory, whereby a child assimilates new information through contacts and social interactions with their parents or teachers. Differentiated instruction is a compilation of a variety of theories and practices. Grounded in Vygotsky's ZPD is the use of explicit learning strategies which teach at a difficulty level slightly above the student's current level of understanding. The students' learning capabilities are stretched as they experience a productive struggle to connect what is known to what is unknown in their acquisition and understanding of new ideas, concepts, and knowledge.

The ZPD theory and the use of direct reading instruction will support the research problem and questions related to how my independent variable, reading instructional strategies influences or explains my dependent variable, third-grade students' reading comprehension. Vygotsky's ZPD theory helps to explain how young learners advance from one level to the next and defines the teacher's role in facilitating the child's learning (Vaughn et al., 2015; Vygotsky, 1978).

Nature of the Study

I used a quantitative method which allowed me to examine variables statistically. More specifically, the quantitative method allowed me to illustrate the statistical analysis of numerical data using computational techniques (Creswell, 2012). I used a quasi-experimental design Creswell (2013) to examine whether differentiated instructional strategies used in the classroom were related to third-grade students' reading comprehension as measured by the PARCC reading comprehension scores. Quasi-experimental as explained by Handley, Lyles, McCulloch, and Cattamanchi (2018),

although many researchers cite logistics, time, and cost as their primary reasons for choosing this design, there remains the researchers' ability in developing strategies to strengthen the internal and external validities of the study are useful when attempting to balance the internal and the external validity of the study. To analyze the data in this quasi-experimental study, I used several independent *t* tests. The quasi-experimental design allowed me to investigate the effects of differentiated instruction on third graders' reading comprehension when the effects of the study had already occurred. Quasi-experimental research is a quantitative method of research in which the research uses convenience sampling and naturally formed (intact) groups (Creswell, 2012). In this case, third-grade students in the ENMEC were selected for the study. The independent variable with two levels for this study are differentiated and nondifferentiated instructional strategies. The type of instruction for each classroom in each school district was determined by the school administrator using the Charlotte Danielson classroom observation rubric (Appendix B). The administrator took the results from the classroom observation rubric to rate the teachers' effectiveness on the NMTEACH Educator Evaluator System (NMTEACH EES; Appendices C through E). The classroom observation, the NMTEACH EES, and the PARCC reading comprehension scores were used to determine the overall rating (Levels 1 to 5) of each teacher. The dependent variable is the third-grade students' reading comprehension as measured by the PARCC reading comprehension scores.

The research design, a quasi-experimental approach derives logically from the problem of third graders reading below the proficiency level, as measured by their

PARCC reading comprehension scores, due in part to the students' annual performance on high-stakes assessments.

Definitions

Best practices: Instructional strategies, approaches, and techniques used to improve students' academic performance (Roskos & Neuman, 2014).

Close read: A Common Core State Standard requirement, the close read instructional reading strategy draws the readers' attention to the text which requires critical thinking and analysis of the book to develop a broad and precise understanding of the text be it literary or informational (Roskos & Neuman, 2014).

Common core state standards (*CCSS*): The CCSS are a federal initiative outlining the mathematics and reading skills PK-12 students should know by the end of each school year to advance to the next grade (NMPED, 2015).

Cooperative learning: A heterogeneous small group setting where students learn to collaborate, share knowledge, and tasks and take responsibility for their learning. Students experience team building, accountability, and interdependence (Coy, 2014).

Differentiated instruction: When the teacher identifies and understands the learning preferences and styles of the students and develops customized lessons designed to target the students' unique skills, interests, and abilities, uses formative assessment to identify specific concepts to be retaught (interventions), actively engages the students, and creates a flexible learning environment conducive to the students' learning (Roskos & Neuman, 2014).

Direct instruction: A structured, sequenced, and teacher-led instruction. Its components include student-friendly goals and objectives, introduce the lesson with an anticipatory set, followed by *I do*, *we do*, and *you do*, frequently check for the students' understanding, and provide positive and constructive feedback to the students (Tomlinson, 2014).

Istation: According to teacher leaders through personal conversations, istation is an assessment of Pk-3 students' which measures their levels of phonemic awareness, letter knowledge, alphabetic decoding, vocabulary, spelling, comprehension, and fluency. Once the students' reading level is assessed, Istation provides age-appropriate instruction targeted to each students' reading needs. The data is reliable and is used to measure the students' growth. The reading curriculum adjusts to each students' needs providing interventions or remediation for maintaining positive gains in their reading comprehension.

Marzano's nontraditional vocabulary instruction: According to Marzano, Pickering, and Pollock (2001), a six-step process is used to build the student's academic vocabulary to include: (1) teacher description, (2) student description, (3) nonlinguistic representation, (4) student activities, (5) student discussion, and (6) review games. Marzano et al., (2001) asserted that the teacher begins the process by describing and explaining the academic word before requiring the student to restate the explanation of the word in their own words. After verbally reaffirming the definition of the word, the students illustrate the word. From this point, the students work together with a partner or small groups to "play" with their words either breaking the words apart and creating new

words using prefixes, root words, and suffixes, classifying and sorting the phrase, or creating VENN diagrams to compare the similarities and differences between their words all the while discussing their interpretations of the word(s). As the process concludes, the students review the new knowledge (words) as the teacher listens to their table talk.

Nondifferentiated instruction: Occurs when teaching is disseminated from the teacher to the student. The instruction is structured, routine, repetitive, sequenced, and led primarily by the teacher (teacher-centered), students are not actively engaged, passive learners, in the lesson (Roskos & Neuman, 2014).

The Partnership for Assessment of Readiness for College and Careers (*PARCC*): A state-mandated annual assessment designed to measure student achievement (Grades 3-11), based on the CCSS in English Language Arts (ELA), and Mathematics (NMPED, 2015).

Traditional vocabulary instruction: This term is definitional by nature and is two-fold. First, by having students look up words in either a dictionary or a glossary in preparation to memorize definitions for a weekly vocabulary test. Second, the traditional instruction uses a contextual approach. A contextual approach to vocabulary instruction occurs when students use clues from the sentence in which the unknown vocabulary word is used (Marzano, 2001).

Assumptions

The teachers receive annual training by their district or school administrative test coordinator to qualify as test proctors. I assumed that the test proctors would complete

the state-specific protocol before, during, and after the test. I also assumed the test proctors would follow the procedures, policies, and scripts with fidelity and consistency.

I assumed that the students, while working on their computer-based assessment, would follow directions and not proceed to the next section or have an electronic device on their person before, during, and after the test.

I also assumed that the test proctor would arrange the testing environment to eliminate cheating. Teachers can arrange the seating so that the students face each other (computer to computer), place study carrels between the students to prevent roving eyes, monitor the traffic when students request a bathroom or water break, and watch each students' progress on the test computer monitor, and report any testing inconsistencies immediately to the test coordinator.

Finally, I assumed that the students took the assessment seriously and answered each question to the best of their ability rather than rush through the test under the impression that the results would have no bearing on their academic standing.

Scope and Delimitations

I examined differentiated versus nondifferentiated instructional strategies and the effect, if any, either had on the reading comprehension of third-grade students, as measured using three years of archived PARCC reading comprehension scores, in the ENMEC serving Curry, DeBaca, Quay, and Roosevelt counties primarily in Eastern New Mexico.

Delimitations are conscious decisions I made during the research process. I thought of delimitations as self-imposed boundaries that I was not doing and the reasons I

used to justify the exclusion of a certain population/sample, setting, and instrumentation. The delimitations I anticipated in the study first was the population and sample. I focused my research in small rural school districts comprised primarily of Caucasian students. An abundant amount of research focuses on the growing Hispanic population, but I tried to focus on the problem using a broader lens. I focused on the fact that approximately 25% of New Mexico third graders are reading at the proficient or advanced levels. The second delimitation is the setting. I chose the ENMEC which serves Curry, DeBaca, Quay, and Roosevelt counties in Eastern New Mexico primarily because of the proximity to where I live and work and the ease of conducting my first research study. I also chose the locality because if warranted, the research study would benefit my campus and surrounding schools that students migrate in and out of my district.

Limitations

The limitations often relate to some factors such as sample size, an inaccurate measure of the variables, loss of participants opting out of the study, or other factors associated to the collection and analysis of data. Limitations regarding quantitative research may include the inflexibility of the study because the instruments are structured and cannot be modified. Any unauthorized modifications may affect the reliability and validity of the measure. Quantitative studies rely mainly on numerical data. The reduction of data to numbers may in effect result in lost information.

The limitations associated with the causal-comparative quasi-experimental approach such as pre-existing factors and other influences (confounding) are not taken into consideration because the variables are less controlled. For example, regulating the

instructional strategies from one teacher to the next. The two teachers may have been using differentiated instruction, but what remains uncertain is the safeguards in place to gauge each one's effectiveness. In New Mexico, the administrators use a standard classroom observation rubric to alleviate such limitations. The administrators use a checklist and make a note of the teacher and student interactions as well as the student to student interactions. In essence, although the teachers are given autonomy as to which differentiated instruction they choose, the administrators are looking for uniformity in the delivery of the differentiated instruction and a consistent gain in their students' PARCC reading comprehension scores.

With the use of the convenience sampling method, there is a possibility of selection bias (Creswell, 2012). For example, there may be something inherently different about the students who were chosen for the study (e.g., highly-motivated or high parent involvement) that helps them to succeed with their reading. For this reason, it was not feasible to assume the change in reading comprehension scores was caused by the differentiated instruction and not the personal variables identified or a combination thereof.

The demographics and sample size represented in this study in and of itself may be a limitation. Of the 128 students, 73% were Caucasian. Hispanic, Native American, and African American ethnicities made up the remaining 27%. The generalizations based on the results of the study were limited to primarily Caucasian students and a small number of minority students in the ENMEC and not necessarily applicable to other school districts statewide.

Limitations in any methodology, according to Creswell (2012), will not weaken the effectiveness or strength of the findings so long as the weaknesses are acknowledged. The quasi-experimental design lacks the randomization of participants to groups making it difficult for the researcher to establish a sound statistical analysis.

Significance

As a high school ELA teacher, I have students in varying stages of reading levels ranging from below grade-level to college level. The students who pose the most significant challenge are the ones reading below their grade-level (Hernandez, 2011). I struggle with varying levels of reading abilities: ninth graders reading at a fourth-grade level, sophomores unable to recognize vowel blends and the proper sounds they form, juniors unable to read and comprehend grade level novels, and 12th graders reading at a sixth-grade level. In this study, I addressed a local problem in Eastern New Mexico by focusing on the instructional strategies used to strengthen third-grade students' reading comprehension. As a result, this may provide ample opportunities to implement either evidence-based instructional strategies (differentiated versus nondifferentiated), professional development workshops, professional learning communities (PLCs), or concept-based curricula to meet the needs of the third-grade students struggling with reading at or below their grade level.

The findings, as a result of this research study, is to inform the study with the possibility of implementing research-based instructional practices driven by data in PK-3 classes. Teachers are agents of change and advocate for those students marginalized, disenfranchised, and silenced by a lack of effective communication skills (Alharbi, 2015).

Without a basic knowledge of the academic vocabulary needed to build background knowledge in language arts, students will continue to have difficulty understanding informational and literary texts they read or hear (Alharbi, 2015).

By determining the effectiveness of the reading instructional strategies on multiple groups of third-grade students' reading comprehension across a number of school districts in eastern New Mexico, I provided school administrators and educators with a better understanding of the problem, students reading below their grade level with a limited knowledge of academic vocabulary. As a result of my research, the teachers and administrators were provided ample opportunities to implement either evidence-based instructional strategies (differentiated versus nondifferentiated), professional development workshops, or concept-based curricula to meet the needs of the third-grade students struggling with reading at or below their grade-level. Based on the problem, third-grade students not performing at the proficiency level in reading, I conjecture that given the results, the research may provide the guidelines for the implementation of a research-based academic vocabulary instruction (to which this is yet to be determined). The language arts teachers, collaborating with the science, social studies, and math teachers, can be guided to use informative and literary texts that elicit emotion, interest, controversy, and functionality to be used in the vocabulary instruction to develop the students' cognitive skills to provide a well-rounded education (Baumann, Ware, & Edwards, 2007).

The overarching benefit of addressing practices that teachers can use to enhance their pedagogical practices is not to prescribe one method as an impetus for change, but

rather provide an overview to teacher leaders and leave the decision to them as to what pathway they see as the most effective instructional method to help all children achieve literacy and prepare their students for a 21st-century global society (Baumann et al., 2007).

Summary

School reform is not new to the public-school system. Since its inception, the school system has undergone many different platforms when it comes to educating students. Just as the schools have changed in the policies and procedures they use to govern the educational process of the students, so have the teachers. No longer is the sit and get (teacher lecture) approach adequately preparing our students for postsecondary lives (Baumann et al., 2007; Wagner, 2014). Memorization and regurgitation of dates and facts have been replaced with student collaboration, small-group settings, and hands-on, real-world projects (Tomlinson, 2005). Students will be required to use their higher-order thinking skills, problem-solving, and critical thinking skills as they enter into a highly developed and technology-rich 21st–century society (Baumann et al., 2007; Wagner, 2014).

Little opposition exists to the assertion that reading is essential to learning and the learning process itself involves social interaction between teachers and students as well as students and students (Fisher & Frey, 2014). In looking at the points made with this summation, the problem, third-grade students not reading at the proficiency level will, according to the New Mexico Public Education Department (NMPED), predictably produce generations of students ill-equipped to contribute to or sustain a free and

democratic global society. New Mexicans are concerned about reading. The state has some of the lowest adult literacy rates across the United States, and its K-12 education system is ranked 49th on Education Week's Quality Counts Report. The minimal to moderate achievement reading scores across the state of New Mexico indicates a problem with reading instruction. Teachers are taking an active role in honing their instructional skills to meet the challenges in educating their students in the area of reading to increase the number of students reading at or above the proficiency level and reduce the number of adults unable to read.

By using a causal-comparative quasi-experimental research approach, a determination may emerge as to whether reading comprehension of students can be related to different instructional strategies such as designing lessons based on students' learning styles and preferences, grouping of students by skills, interests, and abilities, and using formative assessments to provide interventions and extension activities when necessary (Naylor, Wooldridge, & Lyles, 2014; Stover, Yearta, & Harris, 2016). If the determination is confirmed, a study project designed to optimize the teachers' expertise, time, and resources may be in line to provide authentic and relevant professional development for teachers, administrators, and instructional coaches. Once in place, teachers will begin to buy in and take an active role in changing their school district policies and procedures to provide an equitable and quality education for all students.

Leading the discussion of Chapter 2 is the literature review related to key concepts and the variables and search strategies, theoretical framework, and summary.

Chapter 2: Literature Review

My focus in this quantitative study was to investigate the effects of differentiated instructional strategies on third-grade students' reading comprehension. The population's reading skills are the foundation from which a nation's economic stability and ultimate success are built. If the United States is to prosper economically, then the third-grade students educated today will require strong literacy skills to help current and future generations to contribute to the 21st-century global community (World Literacy Foundation, 2015). The effects of this issue, third-grade students low reading levels, if left unresolved will manifest itself in social, political, and educational arenas.

According to Wagner (2014), newly created well-paying jobs often require a high level of literacy skills. The social effect of this issue is that low literacy achievement determines an individual's future earning potential (World Literacy Foundation, 2015). The combination of a lack of literacy skills combined with a lack of financial literacy (involving prose, documents, and reading) compound the difficulty in pursuing the American dream. Without literacy skills, many people are marginalized and disenfranchised. They are excluded from the decision-making process affecting participating in politics and other activities affecting their family, household, and livelihood (World Literacy Foundation, 2015). Without the proper literacy skills, people are unable to complete medical forms, read prescriptions, understand hazard and warning symbols, or even navigate the highway system using an atlas or a map.

The general problem that I investigated in this study is that students within the ENMEC are reading below their grade level and have limited reading comprehension

skills. More specifically, because an increasing number of third-grade students are not achieving the state literacy standard (proficiency) and pose a detriment to the sustainment of today's society, I need to determine the effects the two instructional strategies, differentiated and nondifferentiated, have on third-grade students' reading comprehension.

According to Beach and O'Connor (2015), the importance of understanding the nature of effective reading instruction in the primary grades cannot be overstated. This study is needed to help teachers recognize their students' varying background knowledge, reading ability, preferences in learning and interests, and react responsively. This study is also needed to help teachers that do not have the background or training they need to access and implement research-based reading instruction in their classrooms. A student's academic progress is profoundly shaped by the ability to understand what is read. Students who cannot understand what they read are not likely to acquire the skills necessary to participate in the 21st-century workforce.

In the following sections, I identify the key terms, combinations of search terms, and search engines used to conduct my literature search. Included in the literature search are articles supporting the theoretical foundation, Vygotsky's ZPD, and literature related to my variables, differentiated instruction and 3rd-grade students' reading comprehension. I concluded with what is currently known about differentiated instruction and how this study will add to and extend the knowledge of the existing empirical evidence on differentiated instruction and the effect it has on third graders' reading comprehension.

Literature Search Strategy

A literature review requires an extensive search of databases (previous research to current research) to gain a complete understanding of differentiated instruction. Literature reviews are secondary sources that provide the researcher with a comprehensive overview and critique of previous research studies. The literature review process requires an ample amount of time reading peer-reviewed articles, digesting the information, and reporting the information in a clear and concise manner to keep the reader's interest, and add to the richness of the field of study (Creswell, 2012).

The Walden University Library subscribes to more than 300 distinct online information services that provide scholarly content usually unavailable through free Web search utilities. In a single search, I examined multiple library resources at once (i.e., articles, audio and video files, dissertations, and essays) retrieving the most relevant information while helping to reduce search time. My search for quality (peer-reviewed) literature to review began with the first concept. And from there I searched for the subject headings followed by examining the text for keywords.

Seminal works, sometimes called *pivotal* or *landmark* studies, are articles that initially presented an idea of great importance or influence within a particular discipline. Limiting a database search to only the past 5 years, for example, may exclude seminal studies from my results. To avoid overlooking pivotal research that may have occurred in years past, I have found that I should not use a date limiter. Seminal articles are referred to often in the study, so I looked for these sources frequently cited in other journal articles, books, dissertations, and others.

Database searches such as Educational Resource Information Center (ERIC), Education Search Complete, EBSCO, SAGE, and ProQuest were conducted to find current peer-reviewed articles. To broaden the search, I used Google Scholar and government websites. The key terms I used to narrow my research were *academic vocabulary, reading comprehension, cooperative learning, lecture, third graders, interventions, Vygotsky's ZPD, direct instruction, differentiated instruction, response to intervention*, and *achievement gaps.*

Theoretical Foundation

For this study, I used Vygotsky's zone of proximal development as a theoretical foundation to investigate differentiated instructional strategies and the effect they have on 3rd-grade students' reading comprehension of academic vocabulary. Vygotsky's ZPD theory's origin and source are grounded in social learning which according to the theory, precedes individual cognitive development (Vygotsky, 1978). In other words, higher mental processes in the individual have their origin in social processes.

The students' growth and their potential development, the zone of proximal development, help to explain how young learners' understanding of particular concepts progress from one level to the next. By using differentiated instruction, the teacher builds a developmental scaffolding around and within which students find support in their ability to bring knowledge and critical thinking techniques to bear on the solution of problems extending beyond their zone of proximal development (Konstantinou-Katzi, Tsolaki, Meletiou-Mavrotheris, & Koutselini, 2013). To make sense out of the concepts taught, students must value the lesson and see the relevance to their lives. To achieve

meaningful learning and lasting knowledge, the students must not only receive instructional scaffolding from their teacher but must also apply their interpersonal and intrapersonal skills within collaborative learning communities (Konstantinou-Katzi et al., 2013).

The goal of teaching is to educate the students and prepare them for graduation and postsecondary life, be it college, vocational training, or gainful employment (O'Brien, 2012). The means by which teachers are to achieve their goal is through differentiated instruction. Differentiation instruction provides the process of adjustments to the teacher's instruction to match the students' learning styles and preferences to meet the students' needs and help them achieve their full learning potential (Tomlinson, 2005).

The term, *differentiated instruction*, in and of itself evokes a myriad of interpretations. As the word itself is somewhat ambiguous, to some degree, so is the implementation of the instructional strategies. Therein lies the point of discussion. In a study conducted by Pilten (2016), the teachers' initial perception of differentiated instruction led them to believe the intelligent students were to receive more instruction whereas the students who struggled were to receive less instruction. To help clarify the term, Stover et al. (2016) asserted that the term intends to target the students' individuality with specific instruction regarding their learning preferences and styles, grouping, and formative assessment. Not only must the teacher target the students' specific learning styles, skills, interests, and abilities, but they should be equipped with the skill set to design and implement multi-modal lessons, and most importantly, possess the willingness to carry out the differentiated instruction with uniformity, fidelity, and

consistency (Perren et al., 2017). In a study of 18 primary schools (K-6), Dijkstra, Walraven, Mooij, and Kirschner (2017) discovered that the quantitative findings showed intervention fidelity of differentiated instruction differed between the schools. The teachers' perceptions of the instructional strategies and their effectiveness, preservice training, ongoing professional development and support from the school administrators, and communication among colleagues, were among the reasons attributed to the inconsistency in the fidelity of the differentiated instruction.

Cooperative learning, one of many differentiated approaches to learning, provides ample educational opportunities for students with mixed abilities to collaborate in a small group setting (Puzio & Colby, 2013). Students learn to use their interpersonal skills to share their knowledge helping the group to connect what is known to that which is not known (Gardner, 2006). With the students sharing their knowledge and tasks, each learns to take responsibility for their learning by questioning their peers to clarify their inquiries. Students experience team building, accountability, and interdependence (Coy, 2014).

Literature Review Related to Key Concepts and Variable

Since the inception of the public-school system in the United States, numerous ideas and approaches have been discussed, debated, implemented, and assessed as to what approach best teaches students to read with fluency and comprehension. For example, in the 1960s, the Paideia model introduced the concept of differentiated instruction as an alternative to traditional teaching (Adler, 1982). The alternative was to individualize the instruction and differentiate the process, environment, and product for highly-motivated and gifted students. Tomlinson (2005) developed the concept of

differentiated instruction to include mixed ability classrooms to include students of varying abilities.

Advocates and opponents of differentiated instruction argue on behalf of the advantages and disadvantages associated with the instructional model. Advocates of differentiated instruction cite studies conducted by Valiandes (2014), Roskos and Neumann (2014), and Gregory and Chapman (2013), that reported a significant difference in a student's performance when they are exposed to differentiated instruction using flexible grouping arrangements. Contrastingly, opponents of differentiated instruction, according to Delisis (2015), argued that the use of heterogeneous grouping, hampers rather than enhances the learning experience for students performing at different levels, i.e., below average, average, and above average. By dismantling the provisions used to offer classes for the gifted and talented, students who struggle, and the students with disruptive behavioral issues, the learning process has been sacrificed for the sake of change.

For this study, I reviewed best practices (instructional) recommended for and used by elementary reading teachers. The term, *best practices*, encompasses a broad array of approaches and techniques proven to benefit students' reading comprehension (Gregory & Chapman, 2013; Halpin & Kieffer, 2015; Ortlieb & McDowell, 2016; Roskos & Neumann, 2014). In my extensive review of the literature, I examined close read strategies, cooperative/collaborative learning, students' learning styles and preferences, indirect or implicit teaching, and explicit or direct teaching. According to Roskos and Neumann (2014), the best practices themselves are important but equally important is the

fidelity and consistency each is implemented. Roskos and Neumann (2014) have three suggestions. Prerequisites, according to Nikolae (2014), must be satisfied before teachers can shift from relying on the textbook and following its guidelines, to differentiating their instruction to meet their students' individual needs. The teachers need to be well-versed and trained in reading instruction, there needs to be high-quality instructional materials, and a scope and sequence outlined in a pacing guide to maximize classroom instructional time (Jones, Yssel, & Grant, 2012; Ortlieb & McDowell, 2016).

Struggling Readers

The primary objective of the reading teacher is to ensure the students gain meaning and understanding from the text, be it informational or literary (Comings, 2015). It is not enough to teach students to read the words; they need to know how to use the words in context to understand sentences, excerpts, passages, and the entire text (Comings, 2015). Reading comprehension is a multidimensional process involving factors related to the reader, the text, and the activity of gaining and retaining knowledge (Jefferson, Grant, & Sander, 2017).

Factors Related to the Reader

According to Kim, Apel, and Otaiba (2013), a reader's competencies such as the foundational skill sets, higher order reading processes, and the social and cultural influences all influence the level of the reader's comprehension. Early learning experiences such as exposure to language and vocabulary in the context of conversations between siblings and parents, influence later school achievement (Kucirkova, Messer, & Whitelock, 2012). Restricting or limiting a child's experience to oral and written

communication is a reliable indicator of future difficulties with reading comprehension (Kim et al., 2013). Just as a student requires mediation from the teacher when learning a new concept, so does the child when developing the necessary foundation skills needed to read. The child's life experiences and ability to read are interdependent just as the home connections are interrelated for the child's development of necessary literacy skills (Kim et al., 2013).

Factors Related to the Text

Students develop knowledge by reading the text within the context of the reading passage (Adler & Van Doren, 1972). Decoding and word recognition are at the center of poor reading skills. Until phonemic awareness is fully developed, the struggling readers' word recognition is not automatic, reading is not fluent, and comprehension suffers. Among the text genres, students are expected to read a narrative, expository, descriptive, and instructional text (Elleman, Lindo, Morphy, & Compton, 2009).

Lesaux, Kieffer, Kelley, and Harris (2014) conducted a study on the effects of using word knowledge strategies and vocabulary teaching for linguistically diverse students. From their findings, Lesaux et al. (2014) discovered that a student's conversational language differs greatly from their academic language and recommend teachers focus on building their students' word knowledge within the context of the unit or lesson. More importantly, rather than conduct the word learning strategies and vocabulary teaching in isolation, teachers are encouraged to embed the academic vocabulary in interdisciplinary lessons to help connect the narrative, expository,

descriptive, and instructional texts from the core disciplines to the students' prior knowledge (Lesaux et al., 2014).

Factors Related to the Reading Activity

According to Edwards (2014), teaching kids to read is a shared responsibility between teachers, parents, and community-based programs. The purpose of reading must be meaningful to the reader to ensure the reader is actively engaged before, during, and after reading the text (Edwards, 2014). To assist in this, reading should be taught in and practiced across the disciplines. Also, a home reading activity helps not only to strengthen the student's reading skills but helps to impress upon the student the importance of the reading activity (Kucirkova et al., 2012). The reading activity is not an isolated activity that occurs only in school or in the language arts class. Reading should be taught and practiced across the disciplines (Tomlinson, 2014).

Struggling readers are students who have not mastered or do not possess the skill set needed to understand what they read and to do it flawlessly. When assessing for reading comprehension, teachers look for the student's ability to process literary or informational text, understand the literal meaning, and to make a connection to their prior knowledge (Tomlinson, 2014). Students strive to meet expectations in literary texts by demonstrating they can read and analyze fiction. Students meet expectations by showing they can read and analyze nonfiction, history, science, and the arts. Students meet expectations by showing they can use context clues (literary and informational) to determine the meaning of words and phrases (Spencer, Quinn, & Wagner, 2014).

In addition to the five essential components of reading which are phonemic awareness, phonics, vocabulary, fluency, and comprehension, Cervetti and Hiebert (2015) suggest a sixth component, knowledge. Cervetti and Hiebert (2015) suggested it is not enough for students to know the relationship between the letters and sounds of vowel and consonant blends, reading at an appropriate speed, developing their vocabulary, and understanding what has been read. With the onset of the CCSS, Cervetti and Hiebert (2015) asserted that an interdisciplinary approach is used to make a connection to bridge ELA and informational text (subject knowledge) from the other core disciplines, i.e., social studies, mathematics, and science.

Differing Methodologies

A considerable amount of research has been dedicated to and conducted on behalf of different reading strategies. As a result, the knowledge shared has added to the richness of options available to teachers dependent on evidence-based instructional strategies and interventions for students of varying skills, abilities, and interests (Beach & O'Connor, 2015; Jefferson, Grant, & Sander, 2017; Stevens, Walker, & Vaughn, 2017).

Snel, Terwel, Aarnoutse, and Van Leeuwe (2012) adopted a quasi-experimental pre-post-test control group to determine which of the two instructional strategies, guided co-construction or direct instruction, would have the greater effect on the reading comprehension for beginning readers. The results of the comparisons of the pre-and post-test revealed no significant differences on all of the pre-reading measures, i.e., phonemic synthesis, letter knowledge, phonemic analysis, naming speed digits and letters, and four separate word recognition tests. The pre-and-post-test process are key factors when

teachers use differentiated instruction. More specifically, the pre-and-post assessments provide a starting point from which the teacher designs his/her lesson plans and an assessment of the effectiveness of the instructional process.

A sequential pre-and-post study was conducted by Lenhard, Baier, Endlich, Schneider, and Hoffmann (2013) comparing two reading programs, Reading Detectives and conText. Reading Detectives is a direct reading strategy whereas conText is a computer-based program designed to provide guided practice. Both programs' subjects involved sixth-grade students. The results of the comparison revealed no significant differences in both groups' pre-and post-test scores of reading fluency, verbal intelligence, meta-cognitive knowledge, and reading comprehension.

Valiandes (2015) presented findings from a quasi-experimental study designed to evaluate the effect of differentiated instruction on mixed-ability 4th-grade classrooms. The findings revealed a difference in academic performance between the two instructional groups. The mixed-ability classrooms, when the differentiated instruction was implemented with fidelity and consistency, showed greater progress than classrooms where nondifferentiated instructional strategies were not used. Although socioeconomic status was not a contributing factor, Valiandes (2015) discussed the implications promoting differentiated instruction may have when it comes to equity and quality of instruction. Teachers, when presented with students of varying abilities, will arrange the learning environment to optimize the opportunities for students to share their knowledge and to learn from each other. In this study, the teachers planned for and accommodated

their students' learning styles and preferences with their interpersonal and intrapersonal learning preferences taking precedence.

Williams et al. (2014) conducted two clustered randomized trials (CRT) of the effects interim assessments have on two groups' (2nd-grade math and ELA and 5th-grade math and ELA) academic achievement. Interim assessments are relatively new and are offered as an alternative to the current accountability system tying student achievement to the CCSS.

Nearly a decade is separating the federal mandates to improve the quality of education, Bush's No Child Left Behind Act of 2000 (NCLB) and Obama's Race to the Top (RTT) were implemented to add to the support system teachers, and administrators need to be accountable for their students' annual academic progress. The juxtaposition of the two accountability instruments points to a change in teachers' attitudes towards government initiatives and the accountability system. In their study, Holloway and Brass (2018) reported that where the teachers once resented and resisted the teacher evaluation system they now accept and embrace the accountability factor in teaching. The teachers' willingness to change their teaching approach and use differentiated instruction is helping to improve their students' academic performance and improve low performing schools. Thus, the educator evaluation system is proving to be effective in the teacher's personal development and professional growth (Holloway & Brass, 2018).

Perren et al. (2017) conducted a study to determine whether the teacher's professional background and training as a pre-service teacher, had any bearing or influence on their early-childhood students' learning when using the child-centered

(differentiated) instructional strategy. The findings revealed that the teachers' willingness to incorporate differentiated instruction relied heavily on their self-efficacy and the confidence they had in their ability to promote child-centered learning (Joseph, Thomas, Simonette, & Ramsook, 2013). To that, in response to the change in the diversity of the pre-service teacher education enrollment, i.e., intellect, ethnicity, culture, and abilities, the program is shifting its focus from lecturing to requiring the instructors to model a variety of differentiated instructional strategies to equip upcoming educators with the tools to target the classroom instruction necessary for their students' academic success (Lethaby & Harries, 2016; Subban, 2006). With an adequate background in pedagogical courses, coupled with the college instructors modeling differentiated instruction, Griess and Keat (2014) and Joseph et al. (2013), asserted the teachers will gain the confidence in implementing the different instructional strategies they were exposed to and modeled by their instructors to increase their students' academic progress. Still to be determined is the degree to which the fidelity and consistency in the instructors modeling differentiated instruction in teacher education programs are accomplished (Griess & Keat, 2014; Subban, 2006). The study was instrumental in adding to the current research that given pedagogical classes where the instructor models the differentiated instruction, the pre-service teacher would be better prepared and aware of the instructional approaches available to them as teachers. Therefore, further research is recommended to conclude whether a strong correlation exists between the modeling of and implementation of differentiated instruction in the teachers' classrooms (Griess & Keat, 2014; Lethaby & Harries, 2016; Subban, 2006).

A study was conducted by Kikas, Silinskas, Jogi, and Soodla (2016) observing child-centered, mixed child-centered with teacher-directed, and child-dominated instructional methods in 1st-grade and 2nd-grade classrooms. Rather than endorse one particular instructional approach, their findings support the use of a combination of instructional approaches. The students' level of performance was the key factor in their recommendation. Students struggling with their reading responded favorably to their teachers' guided interventions where the higher leveled learner, responded favorably to the teacher as a facilitator allowing the students to connect the known to the unknown and interact with their peers.

Tang et al. (2016) conducted a study involving 1st and 3rd-grade students in Finland and Estonia, both countries with similar teaching philosophies and teacher training. The study examined four learning environments where teachers used either the child-centered, teacher-directed, child-dominated, or a mixture of teaching approaches. The child-centered instructional approach provides a shared responsibility between the teacher and students. The teacher provides guidelines for cooperative learning while holding the students accountable for their learning. The teacher-directed approach provides rote instruction in a highly-structured and well-managed classroom leaving little or no room for the students' input or engagement. The child-dominated approach requires the teacher to observe the students' behavior and does not provide for discipline. As long as the students are safe, the teacher observes from the sidelines. Their findings indicate that not one single approach was significantly more beneficial than the other, but rather a combination of the child-centered, and teacher-directed produced consistent gains in the

students' academic achievement. A balance between the two approaches complimented the interests, needs, and abilities of the students. In other words, a flexible repertoire of instructional approaches suited their students' learning styles and preferences.

The literature shows that differentiated instructional teaching strategies enhance the reading comprehension of 3rd-grade students resulting in positive gains in their quarterly classroom performance and annual state-based high-stakes assessments (Rodicio, Melero, & Izquierdo, 2018). The diversity of practices is illustrated in the following sampling of literature. Teachers' strategies or their instructional strategies are at the center of many efforts to transform the role of the teacher to that of a facilitator and transforming the learning environment from teacher-centered to student-centered. A brief discussion ensues to better understand the importance of shifting from passive learners (teacher-centered) to active learners (student-centered) who actively shape the way they either learn to read or read to learn.

Responding to the Different Needs of Learners

Teachers' perceptions of differentiated instruction vary according to Pilten (2016). In a recent study for primary teachers in Turkey, the teachers' initial perception of differentiated instruction led them to believe the intelligent students, with a greater learning capacity, were to receive more instruction (challenging) whereas the students who struggled were to receive less instruction based on their limited learning capabilities. According to Stover et al. (2016), this certainly does not conform with the intention of the term which is to target the students' individuality with specific instruction regarding learning preferences and styles, grouping, and formative assessment (qualitative

analysis). Until teachers receive professional development, support from their fellow teachers and administrators, time to plan, and time to reflect, the concept of differentiated instruction is not viable because the teachers' self-efficacy is not strong. According to Bellanca, Fogarty, and Pete (2012), PLCs provide a structured environment for collaboration with colleagues and continual teacher growth and development. Bellanca et al. (2012) further state that the purpose of collaboration in a PLC provides for a change in classroom practice to achieve better results. Bellanca et al. (2012) suggested that participation in a PLC allows teachers to engage in ongoing dialog on issues related to instruction, curriculum, assessment, classroom management, data disaggregation, and any other topic of interest. Using guidelines by Briars, Asturias, Foster, & Gale (2013), teachers can begin to empower themselves. The teachers are empowered by sharing evidence-based instructional strategies to be implemented in their respective classrooms.

Since a growing number of students struggle with reading comprehension, teachers use differentiated instruction such as choice boards, to target those students who make up the majority of some classrooms. Care must be taken to not neglect the students reading at or above grade-level, but to expose them to a wide range of reading materials (Callahan et al., 2014; Little, McCoach, & Reis, 2014). One of the keys to differentiated instruction is to have high expectations for all levels of students and to challenge them to struggle productively. The key, for most teachers, is to know their students. Little et al. (2014) suggested using pre-and-post tests to determine a starting point, develop interventions for some, and compact the curriculum for others. Using this strategy, the

students will continue to move along the continuum to become better readers (Little et al., 2014).

Adding to the discussion of differentiating instruction for all students, according to Valiandes (2015), teaching to the middle is not effective in building students' literacy and reading comprehension. Valiandes (2015) and Callahan et al. (2014) suggested that the differences teachers see in their students, i.e., learning preference and style, interests, prior knowledge, life experiences, personality, socioeconomic status, and language readiness level, are all relevant to and must be taken into consideration when planning their lessons if they are to successfully teach to the abilities, skills, and interests of their diverse student population.

According to Firmender, Reis, and Sweeny (2013), the lack of differentiated instruction is an increasing issue as the academic focus for, at, or above grade-level performing students lessens. In the heterogeneous classrooms, as the students' abilities vary so should their instruction. In more than one case, the current focus of differentiated instruction is on students performing below grade-level. In reality, this group accounts for approximately one-quarter of the students leaving nearly three-quarters of the students without the benefit of differentiated instruction. The lack of evidence-based data to support the exact numbers of students' varying levels of proficiency adds to the validity that research is needed to document the percent of the student population directly affected and to what degree.

According to Lenhard et al. (2013), there is a myriad of strategies that have been used over the past five decades. When differentiating instruction, some suggest

computer-based programs that level the student's online lessons are superior to that of teacher-led interventions in small group configurations. Just as there are benefits to both approaches, the teacher must consider the student's learning preference before committing to one program over the other. Another consideration, according to Lenhard et al. (2013), is whether a computer-based reading program can replace the human element that a teacher-led instructional strategy can offer. Lenhard et al. (2013) asserted that although the computer-based reading program can generate data to help drive the instruction, the program alone is not precise enough to target specific areas. Lenhard et al. (2013) suggested that a combination of teacher-led instruction and computer-based instruction be utilized to complement the student's learning experience.

Reading Instruction

Numerous studies on vocabulary instruction have been conducted across the United States (Elleman et al., 2009; Marulis & Neuman, 2010; Varga, 2017). The NAEP publishes annual reports on the nation's standings in the areas of math, reading, and writing. The NAEP data provide standardized scores, on a national basis as well as over time. When comparing students' reading scores by ethnicities, nearly one-third of the nation's population (Hispanic) is performing below proficiency while the Caucasian population continues to surpass and outperform all other ethnicities.

According to Fisher and Frey (2014), the significance of vocabulary cannot be overstated in that it is used as a predictor of a learner's overall reading comprehension. Vocabulary is at the core of literacy and children as young as kindergarten are expected to master the CCSS in reading, writing, listening, and speaking. Their research indicates

that without a clear understanding of the meaning of the vocabulary, the precedence of future failures is set if teachers do not adapt their instructional strategies to teach academic vocabulary explicitly. Learning about teachers' literacy instruction while conducting classroom observations gives administrators and instructional coaches a first-hand account of the effect differentiated vocabulary instruction has on the students. According to Kelsey and Carlisle (2013), the students are using critical thinking skills to understand the text better. The teacher facilitates the students' learning by answering their questions with a question requiring them to collaborate among themselves rather than rely on the teacher for the answer (Kelsey & Carlisle, 2013). The practice of building vocabulary while working in a small group or with a partner is proving to be beneficial to marginalized students' language and literacy skills, i.e., English Language Learners (ELL), as seen in gains in their high-stakes reading scores (Ahmadian & Tajabadi, 2017; Alharbi, 2015; Brinchmann, Hjetland, & Lyster, 2015; Rodicio et al., 2018).

Wei and Attan (2014) compared the effectiveness of two intentional vocabulary strategies of rote-copying, a structured routine of writing down what is heard, or seen, versus read-plus, a program designed for use with marginalized students struggling with reading comprehension. The comparison was used to determine which, if either strategy, produced a greater increase in vocabulary and ultimately an increase in reading comprehension. Wei and Attan (2014) found that marginalized students experienced a slightly greater gain in their reading comprehension when the teacher used a combination of the two intentional vocabulary strategies. Morrow (2013) investigated, whether 3rd-

grade students are comprehending more as a result of indirect or direct instruction. Through his research, Morrow (2013) discovered that although there was no significant difference, implications from the findings indicate that rote-copying was effective as an intervention to help struggling students.

In the course of conducting their research on the dimensions of vocabulary, Kiefer and Lesaux (2012) discussed at great length the breadth, the number of words known, the depth, and the richness of knowledge of words. According to Kiefer and Lesaux (2012), there seems to be differing opinions as to whether the breadth and depth refer to the intra-individual differences (the knowledge of words can be gauged along a continuum varying from shallow to deep), or if it refers to the inter-individual differences (vocabulary knowledge varies on a separate dimension dependent on the individual). Implications arising from the study indicate that knowing the vocabulary construct may not be sufficient enough to adequately address the language barriers and difficulties common among ELL students (Kiefer & Lesaux, 2012).

Differentiated Instruction

Today's classrooms require teachers to develop lesson plans to challenge their students and facilitate their learning through a productive struggle all the while making the lesson relevant and maintaining the students' interests as they actively engage and collaborate with their peers (Roskos & Neuman, 2014). The CCSS in combination with the instructional strategies drive the teacher's instruction to meet the lesson's learning objectives. Effective instructional strategies target students' learning styles and preferences which result in the proper address of the developmental needs of all the

students. According to Tomlinson (2014), there are four ways to differentiate instruction. To begin, differentiation can occur in the content (the "what" of instruction), the product (the "evidence" of instruction), the process (the "how" of instruction), or the learning environment (the "logistics" of instruction). During the classroom observations, the administrator is looking to determine whether the teacher uses differentiated or nondifferentiated instruction. To distinguish between the two, the administrator is observing as to who is doing the majority of the work, the teacher or the students. More specifically, if the teacher is using differentiated instruction, then the observer will see the students are actively engaged in rigorous and relevant activities. The classroom is not just a physical space, but a social one as well (Vygotsky, 1978). A student-centered learning environment invites creativity and critical thinking. If the teacher is using nondifferentiated instruction, then the administrator observes a teacher-led instructional approach where the teaching is disseminated directly from the teacher to the students. The teacher-led instruction is rote, routine, mechanical, and systematic (Connor et al., 2014).

Direct Instruction

Direct instruction is disseminated directly from the teacher to the students. The instruction is rote, routine, mechanical, and systematic. When comparing direct, or explicit instruction, with non-traditional instructional strategies, some low-performing students respond better to the teacher-directed instructional strategy (Edwards, 2014; Magliaro, Lockee, & Burton, 2005; Sandvick, Daal, & Adler, 2014).

According to Huitt (2005), all of the elements of Slavin's (2006) QAIT Teaching/Learning Model (Quality of Instruction, Appropriate Levels of Instruction, Incentive, and Time) must be present for the learning process to flourish. Effective instruction, according to Slavin (2006) relies not only on direct instruction, but also the teacher's ability to establish procedures, policies, and guidelines to maximize their space, time, and resources. Components of the direct instruction model include well-planned lesson plans. For example, students need to know what they are about to learn and by wording the daily objectives in student-friendly terms, this first component is easily attainable. Not only are the daily objectives in student-friendly terms, but they are posted for the students and teacher to refer to. At the conclusion of the lesson, the teacher should revisit the daily objective and survey the students, sometimes in the form of an exit ticket, to gauge the level of the students' understanding. If the level is not as expected, the teacher has time to revisit, revamp, and reteach the concepts missed. In the course of the lesson, the teacher uses an anticipatory set to preview what is to be presented and tap into the students' prior knowledge. The lesson, according to Tomlinson (2014), continues with short instructional time consisting of guided instruction by the teacher, whole group practice, and then independent practice (I do, we do, and you do).

According to Suprayogi, Valcke, and Godwin (2017), direct instruction is a key element of effective instruction. The set of variables to consider when implementing direct instruction are the teachers' self-efficacy and how confident they are in their abilities. Another variable to consider, according to Suprayogi et al. (2017) is the teachers' preparation program and the professional development received to hone their

skills. A question to consider, according to Wanzek and Roberts (2013) is if the teachers are on alternative licensure, have they been properly trained in classroom management, instruction, and pedagogical courses to assess and plan interventions for their students not meeting proficiency in the area of reading? A person's vocabulary varies greatly, but speaking in general terms, according to Garcia-Madruga et al. (2013), the average person may utilize approximately 5,000 in their verbal communications and twice as many in their written communications. Readers with poorly developed language skills, according to Heidari and Khorasaniha (2013), will experience difficulty with reading comprehension. Reading requires the reader to have an adequate vernacular to comprehend the material they read. To become proficient readers, students need direct instruction first with simple sentences. The instruction is recommended to continue in different forms, those that match the students' skills, abilities, interests, and needs, throughout their primary and secondary schooling (Greenwood et al., 2015).

According to Snel et al. (2012), direct instruction benefits students in varying stages in the developments of their reading skills more so than guided instruction. For students lacking the prior knowledge to relate to and to form new understandings of current reading selections, the differentiation relies on the teacher's expertise working one-on-one before transitioning to a small group setting to collaborate and share experiences with their peers.

Close Read Instructional Strategy

Doolittle (1997) and Garcia-Madruga et al. (2013) suggested active processing while reading, is the key to building primary students' vocabulary and background

knowledge. The findings from this intervention study indicate the possibility of improving the students' working memory cognitive processes may be achieved to extract and construct meaning (Molen, Henry, & Luit, 2014) and the outcome resulting in reliable gains in low-achieving primary students' reading comprehension. Students develop their knowledge through the text and by using guidelines provided by Adler and Van Doren (1972), teachers are introducing the concept of close read strategies. By using close read and sight word strategies, according to Burke (2016), the students will read and reread text passages to gain a better understanding with each read through. With the initial reading, the students will begin by looking for key ideas and details. By doing so, the students are looking for the main idea and story elements. With the second reading, the students look at the text structure, be it compare and contrast, order and sequential, cause and effect, or problem-solving (Burke, 2016). The close read concludes with the students adding their knowledge and ideas and relating the text to their lives and experiences.

Lapp, Grant, Moss, and Johnson (2013) offered a few suggestions for teachers who are looking to shift from nondifferentiated to differentiated instruction. Teachers are wanting to integrate differentiated instruction in their science classes to help struggling students comprehend the difficult informational texts, much of which is above their reading level in one form or another. Close reading in the science class is proving to be instrumental in not only challenging students but supporting their academic growth from below and far below basic achievement levels to higher order thinking levels where they can participate in class discussions and complete complex writing activities (Smit &

Humpert, 2012; Taylor, 2015). Close reads require the students to interact within their small groups thus allowing the students to share what they know and gain new information. The small groups are allowed to struggle as they synthesize and find meaning from the text (Lapp et al., 2013; Taylor, 2015).

With an over-reliance on word identification, skills, and fluency, some students are proficient word readers but lack the understanding or meaning of the text content. With a focus on a combination of differentiated instructional strategies, teachers are hopeful of producing well-rounded readers both fluent and comprehensive. In the course of differentiating instruction, students are instructed to use graphic organizers, self-questioning while reading, and repeated reading of the passage or reading selection (Taylor, 2015).

Cooperative Learning

Cooperative learning provides for a student-centered classroom which students are actively engaged in rigorous and relevant activities (Puzio & Colby, 2013). The classroom is not just a physical space, but a social one as well. An effective learning environment invites creativity and critical thinking and fosters mutual respect for others' cultures, values, and beliefs (Elissa & Mostafa, 2013).

Bruner (1960) and Vygotsky (1978) both emphasize a child's environment. The social environment is instrumental in the acquisition of knowledge whereby the students internalize the knowledge gained through the social interaction. In other words, the student needs to go beyond the information provided by either a parent or a teacher, and extrapolate, think outside the box using critical thinking, to come to a thorough

understanding of the concepts or problems in a particular situation presented. Core Academic Language (CAL) according to Uccelli, Barr, Meneses, and Dobbs (2015) is a key contributor to reading comprehension. Uccelli et al. (2015), like Vygotsky (1978), conceptualized language inseparable from the social context of a students' learning environment. The resulting relationship, according to Ma and Lin (2015) and Teng (2016) helps to build the students' comprehension and vocabulary.

Adding to the importance of a child's social learning environment, Tomlinson (2014), suggested differentiated instruction in groups be it large, small, teams, partners, and individuals. All have value because each setting offers an opportunity for students to use their inter-and intrapersonal skills for slightly different experiences and outcomes (Elissa & Mostafa, 2013). Thoughtfully designed learning environments, according to Puzio and Colby (2013) and Morgan, McLaughlin, Webe, and Bolich (2016), use a variety of reading tasks, delivery of text to speech (audio books), multimodal texts such as poetry or graphic novels, and instructional grouping to increase the students' reading fluency.

To lend support for a collaborative learning environment, verbal scaffolding, according to Wood, Bruner, and Ross (1976), is the "process that enables a child or a novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts" (p. 90). To the point of differentiated instruction and the relationship between the teacher and the student, the teacher utilizes effective questioning methods (open-ended) to elicit critical thinking from the student. The students will learn when

they form their understanding without the teacher providing the thinking for them (Ankrum et al., 2017).

Elissa and Mostafa (2013) studied the effect of differentiated instruction by integrating the combination of students with learning disabilities, multiple intelligences, learning styles and preferences, and cooperative learning environments (small groups). As a result of their study, Elissa and Mostafa (2013) determined that by integrating the students' multiple intelligences, and learning styles and preferences within a controlled experimental cooperative group, the students in the experimental group made greater gains in solving problems than their counterparts in the non-experimental groups. Their findings indicate the reason for the difference in performance is the differentiated instructional groups' individual needs, interests, and skills were satisfied. The needs, interests, and abilities of the group receiving nondifferentiated instruction did not respond well because of the lack of variety in the content, process, product, and environment (Elissa & Mostafa, 2013).

Mantik and Choi (2017) conducted a study to examine whether or not scaffolded think-group-share, a differentiated approach to learning in the form of cooperative learning, would have a positive effect on the students' attitudes toward learning and whether the differentiated instruction improved their reading skills in the acquisition of the English language. In Indonesia, differentiated instruction is one of the approaches used by teachers to accommodate their students' learning styles and preferences, which in turn is helping to improve academic achievement in the area of reading. Cooperative learning, when used correctly, is regarded as a highly effective instructional strategy, but

when not implemented with fidelity and consistency, cooperative learning is regarded as a "free-for-all" gathering with little or no real learning occurring. Mantik and Choi (2017) asserted that with the introduction of scaffolding coupled with cooperative learning the students are engaged and motivated when presented with tasks to which they can build upon until no assistance is required.

Brain-Based Implications

Past, current, and ongoing research into the brain's local functions and capabilities are what is helping educators determine the best way to approach their students' unique learning capabilities, preferences, and styles. To understand how students learn, the first step is to explore the command center from which all learning originates (Chein & Schneider, 2012). The human brain is a complicated and intricate network of neurons working in harmony. The brain is much like a muscle in the respect that when a muscle is used on a consistent basis, it will grow stronger (Chein & Schneider, 2012). As it gains strength, the brain, according to Chein and Schneider (2012) organizes new experiences and new information to form a pattern-recognizing machine. A strong brain, according to Chein and Schneider (2012) is one that is creative, cognitively flexible, and capable of reasoning efficiently while adjusting when encountering minor mishaps, misfires, or mistakes. When students are in a learning situation, their brains release noradrenalin, a hormone that affects learning (Morgan, 2014). When students become overwhelmed and frustrated due to their teacher's instructional methods, an unusual amount of noradrenaline is released thus resulting in the student's lack of motivation, interest, and participation in the lesson (Morgan, 2014).

The need, according to Morgan (2014), for differentiated instruction is not only physical but biological as well.

Accommodating Individual Learning Styles

The students crossing the threshold entering their institutions of learning are unique individuals. Teachers are encouraged to abandon preparing one lesson, presenting it, and assessing it as if the students were all the same (Gregory & Chapman, 2013; Lethaby & Harries, 2016). The diversity in the way they learn is the driving force and evidence that students learn best when their learning styles and preferences are used to customize their lesson (Kikas et al., 2016). According to Scanlon, and Lopez (2012), when it comes to teacher preparation programs and professional development, "a discrepancy between what is known to be effective instructional practices and what accommodations/modifications to the general education curriculum are actually employed in the classroom" (p. 585) is the impetus motivating educators to find and use alternative methods to educate their students based on their learning styles.

Evidenced-based research on multiple intelligences continues to be used to qualify how teachers can adapt their instruction to provide a variety of learning opportunities for diverse learners to support cognitive development in an environment that will stimulate a student's prior knowledge to connect it to that which is unknown (Callahan et al., 2014). The argument in favor of multiple intelligences, according to Gardner (1999), has and will continue to change the face of instructional practices. If the educational leaders in the public-school system are to provide a free and appropriate education for all students (FAPE), then, according to Chein and Schneider (2012), the

educator must first and foremost understand how all of their students learn and develop. Then, they must provide a variety of learning opportunities adapted to diverse learners that support the development of all students' three dimensions of wellness: intellectual, social, and personal.

Multiple Intelligences

A developmental psychologist, Gardner asserts that there is an interconnectedness between literacy, multiple intelligences (MI), and the human brain. To unify the elements, multiple intelligences, and literacy with the cognitive function of the brain, a brief synopsis of the MI theory follows. In stark opposition to the assumption held for over a century that a person's intelligence is a single phenomenon and can be measured by an intellectual (IQ) test, Gardner (1993) contends that based on an individual's skills, interests, and abilities, one of eight intelligences, or a combination thereof, may be used in the process of learning. Each of the eight intelligences is linked to major parts of the brain. The significance of which helps to explain the complexity of the learning process and the cognitive function of each person's brain.

An enriched environment where sensory, perceptual, motor, and multimodal senses are engaged and include immediate feedback from the teacher and student peers, contains the criteria to address and sustain the brain's appetite for stimulation/information (Callahan et al., 2014). Gardner (1993), conducted extensive brain-based research to support *multiple intelligences*, a term used to describe the multi-modal or multi-path learning students engage. Many students respond favorably to multi-modal instructional approaches. Gardner (1983) maintained that the student's learning potential will be

optimized when the lesson focuses on not only their visual and auditory intelligence but also their kinesthetic intelligence requiring the students to engage in hands-on or minds-on activities actively. Continual and sustained focused learning is counterproductive to the natural function of the human brain which requires "breaks" to process newly acquired information if an automatic learning process is to occur (Gardner,1983). Educators who adhere to a singular approach with one single answer are inhibiting the natural curiosity and willingness to experiment, which has sustained the human race (Parasuraman & McKinley, 2010). Growing a smart brain requires exploring alternative methods to problem-solving generating critical thinking and creative insights (Darrow, 2015).

Summary and Conclusions

The most significant measure of success is not in the result based on standardized test scores, but in the way students experience school; how students feel about themselves, interact with others, and prepare for their futures. According to Brookfield (2010), attention to current instructional practices helps educators, administrators, and stakeholders to maintain a pulse on current issues. Among the issues concerning stakeholders the most is 3rd-grade students reading below their grade-level. Students entering the 4th-grade and beyond are lagging behind their peers in reading comprehension skills. In light of the low literacy performance of 3rd-grade students, educators are encouraged to diversify their instructional methods to complement their students' unique qualities and equip themselves with differentiated instructional teaching

strategies to provide all students the reading skills needed to compete on a global stage (Marx, 2006).

In Chapter 3, I delve into the steps taken to measure the effects of differentiated instruction. Furthermore, an explanation of the design, data collection process, and data analysis of the study are provided.

Chapter 3: Research Method

My focus in this quantitative study was to investigate the effect of two instructional strategies on third-grade students' reading comprehension. The effects of this issue, third-grade students low reading levels, is the potential harm and detriment to the country's economy (O'Brien, 2012).

In Chapter 3, I provide a rationale for and a description of this quantitative quasi-experimental approach. The research design and approach are followed by details pertaining to the study's setting, sampling procedures, population, independent and dependent variables, instruments of measure, data collection and analysis procedures, threats to the study identifying both internal and external threats, protection of the participants' privacy and safety, and the role of the researcher.

Research Design and Rationale

The study has one independent variable with two levels: (1) differentiated instruction which requires the teacher to provide the opportunity for students to collaborate, share their knowledge, and their tasks with their peers; and (2) nondifferentiated instruction that is structured, sequenced and led primarily by the teacher. The dependent variable is students' reading comprehension as measured by PARCC reading comprehension scores.

This study, causal-comparative quasi-experimental, was chosen to estimate the effect of differentiated instruction on 3rd-graders' reading comprehension. I chose the quasi-experimental approach because it allows me to illustrate the statistical analysis of numerical data by using computational techniques and to test the effect of a treatment (or

intervention) on an outcome. In this study, I analyzed the archived PARCC reading comprehension scores to determine the effects, if any, differentiated instruction had on third-graders' reading comprehension.

The ultimate goal of education is to prepare individuals for life beyond high school be it postsecondary school, vocational training, or gainful employment. I chose differentiated instruction as an intervention to low reading scores due to the thoroughness of the varied instructional methods available to teachers (Vadasy & Sanders, 2013). Differentiated instruction requires the teacher to identify and understand the learning preferences and styles of the students and develop customized lessons designed to target the students' unique skills, interests, and abilities, utilize formative assessment to identify specific concepts to be re-taught (interventions), actively engage the students, and create a flexible learning environment conducive to the students' learning (Roskos & Neuman, 2014). In other words, differentiated instruction is instrumental in maximizing student growth and individual success in school and beyond.

Methodology

To determine the appropriate method for this study, I reviewed the qualitative, quantitative, and mixed-method approaches. Qualitative methods allow the evaluator to study current trending issues in great depth and precise detail while the absence of predetermined categories of analysis adds to the richness, openness with less breadth, and more depth of qualitative inquiry. Qualitative inquiries can supply a greater depth of information about the central phenomenon in a particular research setting. Quantitative methods, according to Creswell (2012), are used to explain, predict, investigate

differences, describe current conditions, or to examine possible influences on designated outcomes using statistical data. According to Creswell (2012), a mixed-methods approach allows for more in-depth information and the participants' knowledge of the research topic as well as support the hypothesis with rich data sets from archival or public data. By combining both qualitative and quantitative research methods, Creswell (2012) asserted that the researcher is better able to generalize the findings of the study in their proposed solutions to the problem being studied. On the other hand, much time, money, effort, and manpower are required to conduct a mixed-methods study adequately.

After much consideration, the proposed research I chose was a quantitative research study to examine the differences among variables statistically. This method allowed me to illustrate the statistical analysis of numerical data by using computational techniques.

According to Creswell (2012), the quantitative quasi-experimental design has a few notable benefits. First, this design reduces the difficulty and ethical concerns that may surround the pre-selection and random assignment of the test subject to either a treatment or group. Second, research findings from this design may be more likely because, unlike a true experimental design, the quasi-experimental design is expeditious and saves time. Lastly, the findings can often be used to reinforce the conclusions of case studies by conducting further research that may lend itself to scrutiny.

Population

This study was conducted in the ENMEC, which is composed of rural school districts serving Curry, Quay, DeBaca, and Roosevelt counties. The ENMEC has a

population of approximately 2,200 K-12 students with the majority comprised of 73.14% Caucasian. Hispanic, Native American, and African American ethnicities make up the remainder of the student population.

During the time of this study, I was employed as a high school ELA teacher in one of the school districts. I was not in a position of authority over the staff at my school. I intentionally designed my study to focus on third-grade students' PARCC reading comprehension scores to avoid any perception of bias. I requested and was granted permission to conduct my study from the ENMEC administrators, one of whom was my superintendent.

According to each school district's report card, approximately one-third of the students completing third grade was reading at or above the state's standards. More specifically, in 2015, 31% of the third-grade students were reading at or above the state's proficiency levels, and in 2016 and 2017, 37% of the third-grade students were reading at or above the state's proficiency level. The teachers regularly monitor their students' academic progress using the STAR reading test and IStation assessment and adjust their instruction accordingly. A 45-minute block of instructional time is built into the daily schedule to provide the time and place for reading interventions. By monitoring the students' progress on a regular and consistent basis, the teachers can design interventions for students performing below their peers, design activities for students on grade level, and design extension activities for those performing above their peers.

Within the ENMEC, third-grade teachers teach reading to students 4 days a week, in 50-minute segments. Whether the teachers used differentiated instruction or

nondifferentiated instruction, their role is to provide quality education using the curriculum based on and aligned with the New Mexico third-grade reading CCSS. The teachers are given autonomy by their administrators when determining the instructional strategy to use with their 3rd-grade students. Acting in the capacity of a facilitator, teachers using differentiated instruction use flexible grouping, close reads, scaffolding, and tiered activities. Flexible grouping allows the teacher to create a combination of homogeneous and heterogeneous groups based on the curriculum content, and the student's skill level and ability. While walking around listening to each group's dialogues, the teacher can informally evaluate the students' understanding. While walking around the room, if asked questions by the group, the teacher answers their question with a question. This strategy is used to encourage the students to use their critical thinking skills to solve their problems. While monitoring the students' progress, the teacher has the option to regroup students when needed. The grouping is fluid, and the students move about as warranted when concepts are mastered. Tiered activities are strategies teachers use when varying the complexity of the groups' tasks. The tiered activities focus on the essential questions for each lesson. Essential questions focus on ideas that matter to the students. They are framed to engage students in real-life problem-solving to maintain their interest, thought-provoking, intriguing, and lead to other questions. Once the students' understanding is assessed, the complexity of the task gradually increases. A productive struggle is well-suited for the students to connect what they know to what they do not know. Close reads draw the readers' attention to the text which requires critical thinking and analysis of the book, article, poem, or short story to

develop a broad and precise understanding of the text be it literary or informational. Scaffolding helps the students along a learning continuum which builds on the next level of instruction using the previous concepts. Again, using what the students know to help them understand what they do not know. Some Teaching English to Speakers of Other Languages (TESOL) strategies that use scaffolding include the I do, we do, and you do. More specifically, scaffolding includes the teacher modeling, peer-support, and the use of manipulatives with hands-on activities (Ackerman & Zoila, 2015; Darrow, 2015; Morrow, 2013).

Teachers choosing to use nondifferentiated instruction do so after informally assessing their students' abilities, skills, interests, and preferred learning styles. The nondifferentiated instructional model is structured, sequenced and led primarily by the teacher. With nondifferentiated instruction, the teaching is disseminated from the teacher to the student. The instruction is structured, routine, repetitive, sequenced, and led primarily by the teacher (teacher-centered), students are not actively engaged, but rather passive learners in the lesson (Roskos & Neuman, 2014). Teachers will provide modifications to the general education curriculum for their students receiving special services. Some of the modifications include but are not limited to breaking the learning into small "chunks" or smaller steps, providing frequent feedback, checking for understanding, eliminating audio and visual distractions, and providing guided notes (Gleeson, & Davison, 2016; Morrow, 2013).

Sampling and Sampling Procedures

I used a nonprobability convenience sample whereby each person is included in the sample based on convenience of the sites. For example, any 3rd-grade student enrolled in any one of the school districts in the ENMEC and who took the PARCC reading comprehension assessment in 2015, 2016, and 2017 was included in the study. The populations from which the samples were drawn are 3rd-graders in the ENMEC. Irrespective of the limitations of convenience sampling whereby either an over-representation or under-representation of the population may exist, given the logistics, low cost, and ease of use, the convenience sampling was the logical choice in obtaining permission to use each of the nine school districts choosing to participate in the study.

The sampling strategy I used was a convenience sampling of 3rd-grade students in the ENMEC. According to Creswell (2012), the convenience sampling technique best suits the study due to the time, cost, and availability of the participants. To begin, convenience sampling lends itself to the study by the ease and accessibility of the participants in proximity to me. Next, convenience sampling is simplistic. Finally, convenience sampling requires the least amount of time to collect the data not to mention it is inexpensive.

The participants must have completed the K-2 schooling and were enrolled in one of the school districts in the ENMEC which services Curry, DeBaca, Quay, and Roosevelt counties. Another attribute necessary to participate in the study is that the 3rd-grade students are familiar with and capable of following the testing guidelines. The 3rd-

grade students must possess and demonstrate basic keyboarding skills to complete the computer-based PARCC assessment.

The exclusion criteria take into consideration the possibility, on the student's part, failure to adhere to testing guidelines, and being present on the day of testing. By using the convenience sampling method, the students were easy to reach in this nonprobability sampling method allowing me to collect data from a representative sample of the population and to help me reach the confidence level investigators seek in their research (Creswell, 2012).

The sample size used in the study was determined by the cost of collecting the data and the statistical power. By using the convenience sampling technique, the cost of collecting the data was not a consideration. To plan ahead of time to achieve a certain power, the required sample size of 128 participants was determined by using the G*Power (Faul, Erdfelder, Buchner, & Lang, 2009). The type of power analysis was a priori which computed the required sample size given the input parameters were $\boldsymbol{\alpha} = .05$, power = .80, and effect size = 0.5. The output parameters were identified as $df = 126$; the required sample size of each group = 64, and the Critical $t = 1.99$ (Faul et al., 2009).

Archival Data

With IRB approval (number 04-30-18-0227034), I took all of the reasonable measures to obtain informed consent by disclosing to the ENMEC Board of Superintendents, the purpose, procedure, and presentation of the data to avoid misleading or harming the districts' administrators, faculty or students. Since I used the archived data from the districts or schools, I did not need any other permissions. Had I collected the

data directly from the students, considered to be a vulnerable population, then I would have needed the permission of all parents.

Data use agreements (Appendix A) between me and each of the rural school districts were obtained. The purpose of the agreement was to provide me with access to a limited data set (LDS) to use in compliance with the Health Insurance Portability and Accountability Act (HIPPA) and the Family Educational Rights and Privacy Act (FERPA) regulations.

The archived data was collected from each school district via email. Each district was provided a detailed spreadsheet, by the state, of their school's PARCC scores which included identifiers such as the students' gender, ethnicity, socioeconomic status, special services provided, raw reading score, level of mastery, student name, and school identification number. Each of the school district administrators redacted, and de-identified the data provided me. To help with this, I asked that a data table be created to include the testing year, the summative reading score, level of performance, and based on the standardized classroom observation rubric, whether the instruction was differentiated or nondifferentiated.

One of the ways I disseminated the findings of my study was through print. For more general purposes, I summarized my dissertation in 1-2 pages. I emailed one summary to each of the schools I used for my research study. I sent one copy to the director of the ENMEC. I retained a copy for myself.

I made myself available to discuss my findings in a round-table format located in a neutral location i.e. Eastern New Mexico University conference room. The round-table

format provided for an opportunity for the attendees to actively engage in discussion among themselves and concluded with a Question and Answer (Q&A) session with me.

The second way I disseminated the findings of my study was via email. I sent electronic copies to the president of each school board in the ENMEC with a request that my study is forwarded to all 3rd-grade teachers in the ENMEC.

The most significant issue relating to the learning process is the paradigm shift in education. The paradigm shift is illustrated in the manner curriculum is presently designed and defined (Christensen et al., 2011). Curriculum is not designed in terms of what the teacher will teach, but rather what students will be able to accomplish and demonstrate.

I chose differentiated instruction as just one of the interventions available in response to struggling readers because it is not only a teaching philosophy, but a learning philosophy emphasizing the student at each core. Because the students are unique individuals, each with their own set of skills, abilities, and interests, differentiated instruction offers not one style of teaching, but a variety of methods to differentiate the content/area, process/activities/ product and accommodations according to the students' learning styles and preferences (Callahan et al., 2014).

Instrumentation and Operationalization of Constructs

The NMTEACH EES is a year-long process and was fabricated to ensure a standardized framework is followed, so every student receives a quality education in grades K-12. The NMTEACH EES considers a variety of factors in determining the effectiveness of New Mexico teachers. For example, the evaluation system is based on

the measure of student growth, evidence of instruction, student surveys, attendance records, and collaboration between the school, colleges, and the community. The ultimate measure of the teacher's effectiveness is comprised of a combined scored of five weighted components: Improved Student Achievement (35%), Classroom Observations (40%), Lesson Planning, Instructional Preparation, and Demonstration of Professionalism (15%), Student Surveys (5%), and Teacher Attendance (5%).

The student achievement is measured by the student's performance on the PARCC test which is administered in the Spring of each school year. The NMTEACH EES uses the following scale to determine the teacher's effectiveness using a scale rating of 1-5 and a maximum number of points valued at 200. Ineffective Level 1 < 68.8 pts; Minimally Effective Level 2 68.8 to < 102 pts.; Effective Level 3 102 < 136.4 pts.; Highly Effective 136.4 to < 172.9 pts.; and Exemplary 172.9 to 200. The classroom observation is, in essence, a performance-based assessment of the teacher within the context of the learning environment providing the administrator the opportunity to see first-hand the process of instruction which includes curriculum resources and materials, instructional strategies, and classroom management (Hewitt & Weckstein, 2012). The classroom observation is one part of the professional development that allows so many variables to come together in an authentic opportunity to gather evidence and develop insight into the quality of the learning experiences being delivered (Hewitt & Weckstein, 2012). One classroom observation is all that is required to generate a summative report. Administrators are required to observe Ineffective (level 1) or Minimally Effective (level 2) teachers at least three times per school year. The duration of the three extended

observations last for 45-minutes each. There is flexibility with the option of either three extended classroom observations by a single reviewer or two observations by two separate observers are required for Effective teachers (level 3). One extended classroom observation is required for either Highly Effective (level 4) or Exemplary (level 5) teachers. The number of 15-minute walk-thru classroom observations are determined by the district and can vary depending upon the level of the teacher and the time constraints of the classroom observer(s). If extenuating circumstances exist, the school districts have the autonomy to increase the frequency and duration of the observations on an individual basis otherwise; the administrator will adhere to the number of observations recommended by the state in their observation plan.

Implementing a rigorous, uniform observation protocol, providing immediate constructive feedback, and using meaningful student data to drive instruction will provide the information necessary to help usher in the personal development and professional growth of each teacher and principal. That said, there are pre-existing factors and other influences not taken into account because the variables are less easily controlled in quasi-experimental research. For example, how can the instructional strategies from one teacher to the next be consistently regulated? New Mexico adopted a classroom observation rubric to help address this concern. To reduce the administrator's bias, they are trained and certified by the Southern Regional Education Board (SREB). The process takes three-days and requires the re-certification of the classroom observers as revisions and updates are made to the rubric.

The NMTEACH EES consists of 16 domains from which the teacher is evaluated on their level of proficiency and effectiveness as an educator. For this study, the classroom observations, conducted by each school's administrator, focused first on the teacher demonstrating knowledge of their students by using pre-and-post-assessment data to drive their instruction (Appendix C). The second; establishing a culture of learning by establishing classroom procedures to which the students are aware and providing authentic and immediate feedback (Appendix D). The third; engaging students in their learning by connecting new concepts to prior knowledge, and ensure the students interact with the teacher and with their peers (Appendix D). The fourth; demonstrating flexibility and responsiveness by adjusting the lesson when needed, using a variety of instructional strategies, and checking for understanding (Appendix E).

The PARCC is a state-mandated annual assessment designed to measure student achievement, based on the CCSS in ELA, and Mathematics (NMPED, 2015). A student's readiness for advancement to the next grade is measured by a five-level performance scale with proficiency being the target level. Proficiency, as defined by Skandera (2016), is measured by a benchmark score on a criterion (learning standards) based reading assessment and indicates a student has mastered the necessary skills to succeed at the next grade level.

The PARCC assessments performance results determine whether students are on track toward being college and career ready upon graduation from high school. The PARCC assesses the full range of the CCSS including thinking outside the box problem-solving skills. The PARCC provides data for teachers to use to inform or drive their

instruction during the school year and to plan for interventions and ongoing professional development when needed. The PARCC data holds teachers accountable for providing the necessary skill sets and knowledge to sustain an independent lifestyle in a 21st-century society (NMPED, 2015). The PARCC test is summative and is used to assess how well students have learned the CCSS which require the students to think critically, solve problems, and cite evidence. Reading comprehension in 3rd-grade, as measured by the PARCC assessment, has three components: literary text, informational text, and vocabulary.

The 3rd-grade ELA PARCC Reading test is designed to measure the students' depth of knowledge of grade-level concepts, i.e., literary text, informational text, and vocabulary. The PARCC reading test uses multiple-choice questions to measure the students' ability to comprehend a wide variety of texts read independently. In doing so, students are expected to use context clues to determine the meaning of words and phrases as well as drawing conclusions and providing evidence from complex grade-level informational and literary reading passages. The student's level of performance is reported using a five-level scoring system. A student scoring at the first level (Level 1; 650-699), did not meet the state's expectations. A student scoring at the second level (Level 2; 700-724), partially met the state's expectations. A student scoring at the 3rd-level (Level 3; 725-749), approached the state's expectations. A student scoring at the fourth level (Level 4; 750-809), met the state's expectations. A student scoring at the fifth level (Level 5; 810-850), exceeded the state's expectations. Students who meet or exceed the state's expectations are on track to succeed at the next grade level.

I used-archived PARCC reading comprehension scores which are numeric scales and allowed me to determine the exact difference between the scores. The standard descriptive used for this study focused on the percent, and the mean of the 3rd-grade sample's scaled reading scores. I used the PARCC scores from 3rd-grade students from three consecutive years from different students. In other words, I compared the students receiving differentiated instruction with students receiving nondifferentiated instruction in the years 2015, 2016, and 2017. I looked at 3rd-graders cross-sectionally, meaning I integrated the 3rd-graders from 2015, the 3rd-graders from 2016, and the 3rd-graders from 2017 into one group of 3rd-graders with differentiated instruction and compared them to a 2015/2016/2017 group of 3rd-graders with nondifferentiated instruction, as well as individual analyses. I worked with the principals to provide a code (which instruction received) for each student, as to ensure that I had the same students in all groups.

Because no quantitative value was attached, the nature of the scale for the first, differentiated instruction (DI), and second, nondifferentiated instruction (NDI), components of the independent variable was nominal. Because the ability to quantify the difference between each 3rd-grade student’s PARCC reading comprehension score, the nature of the scale of the dependent variable was interval.

Data Analysis Plan

I used the Statistical Package for the Social Sciences (SPSS) software to analyze the 3rd-grade PARCC reading comprehension scores. The purpose of the analysis was to

establish whether a significant difference existed between students exposed to differentiated instruction and students exposed to nondifferentiated instruction.

Before conducting the statistical analysis of the data, the data were screened to ensure the data were useable, reliable, and valid for testing the hypothesis (Meyers, Gamst, & Guarino, 2017). For this study, the removal of invalid data points such as the inaccuracy of the values of the data, outliers, skewness, kurtosis, or missing data, was not necessary. As a result, I identified a valid pattern to support the rejection of the null hypothesis or statistical assumptions pertaining to the data set (Meyers et al., 2017).

Certain steps were taken to analyze the quantitative archived PARCC. The mean and standard deviation (*SD*) of reading comprehension scores of students exposed to differentiated instruction and students exposed to nondifferentiated instruction was calculated. The inference tests used were two-tailed independent sample *t* tests to determine the difference of the means in the PARCC reading comprehension scores.

After performing several independent *t* tests and rejecting the null hypothesis, I was able to calculate the effect size using Cohen's *d* test. Cohen's *d* is the appropriate effect size measure for an independent samples *t* test because the standard deviations and sample sizes for the differentiated and nondifferentiated instructional groups are similar. Cohen's *d* was determined by taking the difference between the two means, differentiated and nondifferentiated instruction, and dividing it by the square root of the pooled variances. There are certain criteria to determine the Cohen's *d* effect size. The scale used to determine the effect size is: $d \approx 0.2$, small effect; $d \approx 0.5$, medium effect; and $d \approx 0.8$, large effect.

In this study, I investigated whether a significant difference existed between differentiated and nondifferentiated instruction on the reading comprehension of 3rd-grade students in the ENMEC.

The following research question was used in the investigation:

RQ: What is the difference in PARCC reading comprehension scores between 3rd-grade students who participated in differentiated instruction and 3rd-grade students who participated in nondifferentiated instruction?

H_0: There is no significant difference in PARCC reading comprehension scores of 3rd-grade students who were exposed to differentiated instruction compared to 3rd-grade students who were exposed to nondifferentiated instruction.

H_A: There is no significant difference in PARCC reading comprehension scores of 3rd-grade students who were exposed to differentiated instruction compared to 3rd-grade students who were exposed to nondifferentiated instruction.

Threats to Validity

Test validity is about the content and the alignment of the CCSS, through the curriculum, and the knowledge taught. The measurement or instrumentation used in New Mexico is the PARCC. The PARCC reading content is reported to be aligned with the standards and benchmarks required by the state and taught in the schools using district approved curricula. Westphal (2016) cited some advisory organizations to speak to the validity of the PARCC assessment. To begin, the Human Resources Research Organization, (HumRRO), determined the PARCC reading assessment is aligned to the state and national standards. The depth and knowledge required of graduating seniors

were found to be present requiring the students to demonstrate their critical-thinking, problem-solving, and analytical skills. Secondly, the Center for American Progress, (CAP), analyzed the PARCC reading assessments and determined the needs of ELLs and students with specific learning reading disabilities are exposed to rigorous assessment aligned to college-ready standards. Third, The American Institutes for Research (AIR), determined the knowledge and skills assessed are comparable in difficulty to the NAEP basic level for English.

Validity provides that the instrument will measure what it is set out to measure and in the case of this research study, the instrument, PARCC reading assessment, is designed to measure the students' level of proficiency about their reading comprehension. The word problem requires the student to show and explain their problem-solving process using pictures, words, and symbols. Some opponents of standardized tests assert the constructed answer portion of the test does not assess the student's math calculations skills but rather their reading and writing skills thus negating the math test's validity.

The PARCC is not a norm-referenced assessment where the student's performance (individual) is measured against a large group of his/her peers and may assess content not yet learned. By contrast, the PARCC is a criterion-referenced assessment where the student's performance is based on their mastery of grade-level specific content that is aligned to the CCSS, i.e., reading, writing, and mathematics.

Established in 1965, the New Mexico Legislature's Legislative Educational Study Committee (LESC), a bipartisan committee whose responsibilities include research and review of the public education provided to the K-12 student population. According to the

LESC (n.d.), upon the completion of their analysis of the programs, policies, or procedures, a written report citing the committee's recommendation of their findings are used for funding teacher costs, educational laws, graduation requirements, and high-stakes student assessment. In 2015, the PARCC assessment was determined to be reliable and valid, this according to the LESC (n.d.). Before transitioning from the State-Based Assessment (SBA) to Pearson's PARCC, the LESC based their findings by comparing the results previously deemed reliable and valid using the SBA. The PARCC results were consistent with the SBA results in that if the students scored at the proficient level or higher, they were on track for graduation, postsecondary schooling, or vocational training or certification.

Ethical Procedures

Ethical considerations are necessary, in any research, to ensure no harm comes to the participants. In a true experimental study, a couple of concerns are present (Creswell, 2013). Participants may be exposed to a treatment that may cause harm, or they may be assigned to a group where a beneficial treatment is withheld (Creswell, 2013). Neither of these concerns is present in a quasi-experimental design.

Because I am comparing two instructional strategies and analyzing the 3rd-grade students' past academic performance on the PARCC assessment as part of my study, a Data Use Agreement, provided by Walden University, was drawn up for each of the prospective school districts. Since the form was kept in its original form, the integrity of the agreement remains intact and complies with FERPA and HIPPA, as required by the IRB. The community research partners have already agreed to assist in participant (3rd-

grade students) recruitment and data collection (archived PARCC reading comprehension scores). By receiving approval from Walden University Institutional Review Board (IRB), it was determined, no further forms are required to conduct the study.

Certain measures must be in place before the IRB approves a researcher's application to conduct their study. To ensure the integrity and confidentiality of the data, the process to obtain and store the data are in the forms of paper and electronic media. To address where the data is stored, a secure system for keeping track of the archived school data was established using both hard copy and electronic storage. The data was stored on a password-protected computer to which only I will have access. The computer and any external thumb-drives have been stored in a locked cabinet when not in use. Paper documents such as spreadsheets or copies (used for editing) of my proposed research have been kept in a three-ring binder and stored in a locked filing cabinet to which I possess the only key. The following security measures were put in place to protect the data during the collection process. The file cabinets were kept locked; the flash-drives were kept in my possession at all time, and my computer was password protected. To address the checks in place to facilitate the accuracy of data collected, I collected and used archival data (PARCC reading comprehension scores) to protect the participants (schools, students, and teachers). I de-identified the data and numbers used to match students' PARCC reading comprehension scores. To address how and when the disposal of the data will occur, after five-years, I will shred the documents using a paper-shredder, and I will erase any electronic data files from my computer and destroy any external flash drives used to store the data in the process of conducting my research project.

One additional ethical issue I considered was conducting a study within my work environment and whether a conflict of interest or power differentials would interfere with the integrity of the study. I am employed by one of the school districts in my study as a high school ELA teacher. I am not in a position of authority that could be misconstrued by my colleagues, participating school districts, or their administrators.

Summary

Using a quasi-experimental causal-comparative design, the problem I sought to investigate is 3rd-graders' low reading scores. The research question driving the study was on the effects of differentiated instruction on 3rd-grade students' PARCC reading comprehension scores. The participants included any 3rd-grade student who took the PARCC reading comprehension test in the academic years 2014-2015, 2015-2016, and 2016-2017. The data collection instrument used was the PARCC reading assessment (annual high-stakes assessment) which is secondary data. I collected information that had already been obtained and processed by government departments.

As I go forward with Chapter 4, I received approval from the IRB allowing me to collect data, analyze the data, and determine what effects differentiated instruction would have on 3rd-graders' reading comprehension and disseminate my findings to the ENMEC administrators.

Chapter 4: Results

Because of the gaps in practice, a study ensued to determine if differentiated instruction resulted in a significant difference in the reading comprehension scores (dependent variable) between struggling readers taught using differentiated instructional strategies (independent variable) in the regular education 3rd-grade classes in Eastern New Mexico. I analyzed and evaluated archived PARCC reading comprehension scores spanning a 3-year period. The PARCC reading comprehension scores are criterion-referenced data that represents the level of performance, on a continuum from "below basic" to "advanced."

I conducted a causal-comparative quasi-experimental study to determine whether differentiated instruction affected 3rd-grade students' reading comprehension. The research question and hypothesis that follows predicated the situation for which the effects could be examined between the instructional strategies, differentiated and nondifferentiated, and the students' reading scores:

RQ: What is the difference in PARCC reading comprehension scores between 3rd-grade students who participated in differentiated instruction and 3rd-grade students who participated in nondifferentiated instruction?

H_0: There is no significant difference in PARCC reading comprehension scores of 3rd-grade students who were exposed to differentiated instruction compared to 3rd-grade students who were exposed to nondifferentiated instruction.

H_A: There is no significant difference in PARCC reading comprehension scores of 3rd-grade students who were exposed to differentiated instruction compared to 3rd-grade students who were exposed to nondifferentiated instruction.

Going forward, I will look at the collection and analysis of the archived PARCC data and determine what effects differentiated instruction has on 3rd-graders' reading comprehension. I will present the results of my analysis of the archival PARCC reading comprehension scores and the process by which the data were collected.

Data Collection

The timeline I devised for the recruitment and data collection process originally was to take approximately two-weeks (14 days), but due to circumstances beyond mine or the administrators' control, the recruitment and data collection process took approximately twice as long as originally planned. The delay did not affect the process or results. I began the process by contacting the ENMEC administrators using my Walden email and their school email accounts. Because of the nature of their jobs, I anticipated a large volume of emails in their inbox. As a precaution, I followed up with a phone call to alert them to the invitation to join my study. The next step was to meet with the administrators during one of their monthly meetings to explain my study, answer their questions and to obtain permission to include their school data in my study.

Using my Walden email, I received a signed data user agreement from each of the ENMEC's principals and IRB approval to collect data. I then requested and obtained PARCC reading comprehension scores of 3rd-grade students from the 2014-2015, 2015-2016, and 2016-2017 school years. The data collection process took approximately three

weeks to complete because the schools were immersed in PARCC testing. The process ended with me de-identifying the data. One administrator declined to join the study. The administrator referenced problems in a similar situation when a graduate student's program supervisor was unable to resolve his questions and concerns and decided caution must be used in future endeavors such as my study.

Demographic Characteristics of the Sample

Table 1 depicts the demographic characteristics for the student sample whose archived PARCC reading comprehension scores were analyzed for the study. Each group consisted of 64 3rd-grade students calculated at 80% strength. Female and male students are nearly evenly represented with 52% boys and 48% girls.

Table 1

Characteristics of Total Samples

Years	Caucasian	Hispanic	African-American, Asian, and Native American
2014-2015	58%	29%	13%
2015-2016	66%	32%	2%
2016-2017	64%	33%	3%

Note. $N = 128$. "The School District Report Cards," by The New Mexico Public Education Department (NMPED). Retrieved from: https://webnew.ped.state.nm.us/bureaus/accountability/district-report-cards/

Representativeness of the Sample

According to Creswell (2012), the researcher seeks to generalize from the sample selected for the study. In other words, does the research demonstrate how similar the

representative sample is to a larger population? The sample is representative for the school districts in and around the ENMEC but not for other regions of the state. The results of the study are limited to primarily Caucasian students and a small number of minority students in the ENMEC and not necessarily applicable to other school districts statewide.

Results

A data screening process was conducted to help guard against data that may have been poorly structured, inaccurate, or incomplete and to ensure the integrity of the data and the validity of the analysis results. Histograms with standard distribution overlays were reviewed to visually verify a violation of normality was not present in the data sets. Box and Whisker plots were examined to verify no outliers were present. In its current state, I was able to use the data in parametric statistic tests. I looked at the measures of central tendency and the measures of dispersion or variance. The indexes utilized include the mean and standard deviations among the 3rd-graders' PARCC reading comprehension scores.

The IBM SPSS Statistics 24 software was used to generate statistical data. The PARCC reading scores of 64 3rd-grade students from each year, 2015, 2016, and 2017 that received the differentiated instruction and the PARCC reading scores of 64 students from each year, 2015, 2016, and 2017 that received the nondifferentiated instruction was analyzed. The mean (*M*) and standard deviation (*SD*) of PARCC reading comprehension scores were calculated. The inference test was a two-tailed independent sample *t* test ($\alpha = .05$) to determine the difference of the means in the PARCC reading comprehension

scores. For this study, I used PARCC reading comprehension scores represented by a three-digit numeric value and two instructional strategies. The PARCC scores were sequentially numbered, so verification was made using a frequency table. I began by verifying the accuracy of the values for each PARCC data point. I used the frequency analysis process and checked each of the PARCC scores (three data sets containing 128 cases) to ensure a three-digit value was entered and found no discrepancies. Once the number of data was verified, I proceeded to verify the instructional strategies. I coded the two instructional strategies with a 1 for differentiated and a 2 for nondifferentiated. I ran a frequency analysis on the instructional strategies to ensure the data values were properly entered and found no discrepancies.

Skewness, or the uneven distribution of data, and kurtosis, or the "spike" or "dips" in the distribution of the data were checked, and all values fall within the range of +/- 3, therefore no violations of skewness or kurtosis were detected (Muzaffar, 2016).

Results for 2014-2015

The *t* test showed a significant difference in mean PARCC reading comprehension scores between the group of students that was exposed to differentiated instruction and the group that was exposed to nondifferentiated instruction: $t(64) = 11.46$, $p < .001$, *Cohen's d* = 2.03. The 64 students exposed to differentiated instruction in 2015 showed an average PARCC reading comprehension score of $M = 752.53$ ($SD = 20.89$), whereas the 64 students exposed to nondifferentiated instruction in 2015 showed an average PARCC score of $M = 704.81$ ($SD = 25.97$).

Results for 2015-2016

The *t* test showed a significant difference in mean PARCC reading comprehension scores between the group of students that was exposed to differentiated instruction and the group that was exposed to nondifferentiated instruction: $t(64) = 12.26$, $p < .001$, *Cohen's d* = 2.17. The 64 students exposed to differentiated instruction in 2016 showed an average PARCC reading comprehension score of $M = 764.44$ ($SD = 24.13$), whereas the 64 students exposed to nondifferentiated instruction in 2016 showed an average PARCC score of $M = 712.41$ ($SD = 23.87$).

Results for 2016-2017

The *t* test showed a significant difference in mean PARCC reading comprehension scores between the group of students that was exposed to differentiated instruction and the group that was exposed to nondifferentiated instruction: $t(64) = 10.31$, $p < .001$, *Cohen's d* = 1.82. The 64 students exposed to differentiated instruction in 2017 showed an average PARCC reading comprehension score of $M = 759.97$ ($SD = 22.21$), whereas the 64 students exposed to nondifferentiated instruction in 2017 showed an average PARCC score of $M = 714.19$ ($SD = 22.88$).

Results for 2015-2017

The independent *t* test showed a significant difference in mean PARCC reading comprehension scores between the group of students that were exposed to differentiated instruction and the group that was exposed to nondifferentiated instruction: $t(384) = 19.38$, $p < .001$, *Cohen's d* = 1.98. The 192 students exposed to differentiated instruction showed an average PARCC reading comprehension score of $M = 758.98$ ($SD = 22.81$),

whereas the 192 students exposed to nondifferentiated instruction showed an average PARCC score of $M = 710.47$ ($SD = 26.14$).

Summary

In this quantitative causal-comparative quasi-experimental study the effect of differentiated instruction on the reading comprehension of 3rd-grade students was investigated. The question driving the research addressed the effect differentiated instruction would have on the reading comprehension of 3rd-grade students.

In this study archived PARCC reading scores of three years of 3rd-grade students were collected and analyzed. Several two-tailed independent sample *t* tests were conducted to determine the difference of the means in the archived PARCC reading comprehension scores was used.

As a result of the students being exposed to differentiated instruction, a significant difference was discovered in the students' PARCC reading comprehension scores. Therefore, the null hypothesis was rejected. By using deductive reasoning, based on the findings of this study, differentiated instruction did have a significant positive effect on 3rd-grade students' reading comprehension. In Chapter 5, I provide an overview of the study, an interpretation of the findings, limitations of the study, recommendations for further research, implications for positive social change, and concludes with the key essence of the study.

Chapter 5: Discussion, Conclusions, and Recommendations

Identifying a strategy that is beneficial to 3rd-grade students struggling with reading comprehension was the impetus for this study. The purpose of conducting this quantitative research study using a retrospective causal-comparative quasi-experimental approach was to verify whether a difference (positive, negative, or none) was present between PARCC reading scores of 3rd-grade students exposed to differentiated instruction and 3rd-grade students exposed to nondifferentiated instruction.

In the research study three years of archived PARCC reading scores was evaluated. The results of several two-tailed independent sample *t* tests revealed there was a significant increase in the students' PARCC reading comprehension scores when students were exposed to differentiated instruction. The result is consistent with previous studies that assert by differentiating instruction, i.e., content, process, and product, students' reading comprehension will improve (Gregory & Chapman, 2013; Halpin & Kieffer, 2015; Ortlieb & McDowell, 2016; Puzio & Colby, 2013; Roskos & Neumann, 2014).

Included also is the explanation of the testing of the hypothesis coupled with the extrapolation of data to remedy the research study question. In Chapter 5, I will conclude with a plan to disseminate my findings to the participants (school administrators) in the ENMEC.

Interpretation of the Findings

When comparing the groups for differentiated instruction and nondifferentiated instruction, the mean for PARCC reading comprehension scores is significantly higher

for students exposed to differentiated instruction in all three years. All effect sizes were large, suggesting that the effect of differentiated instruction on PARCC reading comprehension scores is meaningful.

Most of what teachers teach and the method in which it is taught, is a product of either the courses completed as pre-service teachers or professional development they received (Adler, 1972). In either case, much of the training overemphasizes and narrowly focuses on high-stakes assessments, scoring, and grading rubrics (Tomlinson, 2005). The less knowledge teachers have about teaching, i.e., teachers on alternative licensure with little or no pedagogical courses, tend to focus on what skills they should teach while following the publishers' textbook, as opposed to teaching their students to be critical thinkers using the CCSS to guide their scope and sequence.

Based on other studies (past and current), educators will remain tethered to a rigid curriculum and published reading programs until they become knowledgeable in how to teach reading well (Tomlinson, 2014). This research indicates the need to simplify the reading process while raising expectations to achieve better results.

The teachers used differentiated instruction as a process of teaching and designed their lessons and instruction to meet the students at their level of their students' understanding to maximize each student's learning capacity (Slavin, 2006). Rather than becoming tethered to a rigid curriculum coupled with teacher-centered (nondifferentiated) instruction, teachers are encouraged to take risks, increase their confidence, competence, and joy as a teacher and assessor of reading. When teachers teach with a sense of urgency and purpose, their instructional time makes every minute

count and ensures the instruction is relevant and interesting (Tomlinson, 2014). With engaging lessons, the students' focus is on learning. Effective classroom management likely results in the teacher teaching for meaning and less likely to teach mastery of discrete skills (Gardner, 1983). With differentiated instruction, the lessons are not tedious. The question to be asked is "how can educators teach reading so that all students become effective communicators?" rather than "what does the best reading program look like?" As applied to this study, the differentiated instruction was expected to influence the 3rd-grade students' reading comprehension based on the freedom or autonomy provided the teachers in determining the best instructional approach in teaching the CCSS. By using small groups, close reads, and cooperative learning strategies, the 3rd-grade students' reading comprehension scores increased. The findings from this study confirm educational practices, i.e., differentiated instruction, from seminal works and current literature do have a positive effect on 3rd-grade students' reading comprehension (Adler, 1982; Gardner, 1983; Vaughn et al., 2015; Vygotsky, 1978). To begin, the students exposed to differentiated instruction, i.e., cooperative learning, close read, and direct instruction, demonstrated a positive gain in comprehension scores. Embedded in the theory of multiple intelligences is the element of individualizing or customizing classroom instruction to best suit the interests, skills, and abilities of the students (Gardner, 1983). The fact that the 3rd-grade teachers in the ENMEC are given autonomy as to the delivery of the CCSS speaks to the relevance and correlation between differentiated instruction and the student's learning styles and preferences. Rather than view differentiated instruction as merely a term, the teachers view differentiated

instruction as a process, and a means to instruct their students in the area of reading (Tomlinson, 2014). With differentiated instruction, the depth, rigor, relevance, and sophistication are what increase as opposed to the number of assignments to be completed.

The theoretical framework for this study was grounded in Vygotsky's ZPD. Agra-Junker (2013) asserted the ZPD is a learning process and, students' knowledge will increase when they are optimally engaged in an academic task that is slightly beyond what they are capable of accomplishing. In essence, a productive struggle to connect what they know to what they do not know. In the context of this study, the differentiated instruction was expected to affect the dependent variable, PARCC reading comprehension scores because varying the approaches to teaching, adjusting the curriculum and delivery, and setting high expectations for all students, should have a positive effect on the students' performance. Based on my observations, I rejected the null hypothesis and accepted the alternate hypothesis that differentiated instruction positively affects 3rd-grade students' reading comprehension.

The elucidation I concluded from the results of this study suggests that individual differences in the skills, interests, and abilities of the students somewhat accounted for the differences in the PARCC reading mean scores. That said, some contributing factors that could be addressed by the administrators in each of the school districts is to provide additional instructional support or interventions built into the school day and provide ongoing professional development for teachers to better understand how to teach to the students' learning preferences, and styles.

Limitations of the Study

The limitations of this study are in line with the limitations discussed in Chapter 1. Due to the nature and design of the causal-comparative quasi-experimental approach, the structure of the design did not allow for any modification to the instruments and lacked the randomization of participants to a particular group. Also, being a quantitative study, I limited myself to collecting archival statistical data unable to interview the participants to understand their perceptions or life experiences better. Next, the study was limited by grade level with the focus being on different groups of 3rd-grade students for each of the three years. I chose 3rd-grade because it is the first year the PARCC assessment is administered and the results provide teachers with a baseline to gauge their students' growth.

By using the convenience sampling method, the study was limited by selection bias. I was unable to ascertain whether the students' reading comprehension scores were a result of the differentiated instruction or the factors inherently different about the students participating in the study, i.e., highly-motivated, or high parent involvement.

Speaking to the limitation of the conclusion of this study, although the dissertation's title speaks to instruction in a general sense, the study was limited to differentiated instructional strategies. There are other aspects of classroom pedagogy that affect the student's academic achievement. I postulate that effective pedagogy encompasses not only instructional strategies, but the teacher's classroom management techniques and the scope and sequence of concepts taught based on the state-aligned curriculum. Given the lack of diversity in the students' demographics, it is unlikely I will

be able to use the results of this study of 3rd-graders' reading comprehension and apply the findings to a larger group of 3rd-graders across the state as a whole. The results given the similarity of the students' demographics for the eastern part of New Mexico apply to make generalizations to a smaller region of the state.

Recommendations

The results of the study propose that if students are exposed to a differentiated instructional style, this may result in a significant effect on the PARCC reading scores (reading comprehension) of 3rd-grade students. Moreover, the results demonstrated that the PARCC reading comprehension scores have consistently increased in each of the three years. The results suggest that the students' skills, interests, and needs, in conjunction with the differentiated instruction, played a role in the PARCC reading comprehension scores; therefore, I recommend that administrators, teachers, and ancillary staff (reading specialists, speech language pathologists, etc.) work together to plan and implement evidence-based lessons to include brain-based research. I recommend the formation of PLCs which would allow teachers to collaborate and share their instructional strategies on a regular basis. In small rural school districts, vertical planning would provide the extra support teachers need to prepare their students for the next grade level. The PLCs would also serve as a platform for teachers to share their data, best practices, and plan for interventions.

The following recommendations may help to determine further strategies to implement differentiated instruction:

1. This study was quantitative by nature focusing on the effect differentiated

instruction may or may not have on 3rd-graders' reading comprehension using statistical analysis. Future studies may include a mixed-method approach. According to Lodico, Spaulding, and Voegtle (2010), a mixed-methods research approach offers the best of two worlds; the in-depth and time-consuming insights of qualitative studies coupled with the efficient but less rich or compelling predictability of quantitative research.

2. This study was limited in the number of differentiated reading strategies. In the future, the scope of instructional strategies could be expanded to include brain-based strategies, multiple intelligences, and phonological read-aloud.
3. This study was limited to using archived PARCC data for 3rd-grade students. Future studies should include a longitudinal study of the students to measure their skills as they progress through the primary and secondary grades.
4. This study was limited to studying 3rd-graders from one educational cohort. Collaboration between school districts is encouraged. Future studies could enlarge the scope to include additional school districts to include a larger sample and more diverse student population, i.e., demographics and ability levels.
5. This study's independent variable focused on two separate instructional styles. Future studies could include additional instructional styles by combining the differentiated and nondifferentiated instruction to determine which are the most effective in strengthening the students' reading comprehension.

Implications

Walden University's mission is focused on social change. Positive social change, as defined by Walden University, is a "deliberate process of creating and applying ideas, strategies, and actions…that results in the improvement of human and social conditions" (Walden University Ed.D. Program Candidate Handbook, 2013, Social Change, p. 5). As a result of this study, the essential question to emerge was: What instructional strategies or action plans can be implemented to promote the literacy development and self-worth of struggling readers?

The results of the study may induce administrators to structure the students' daily schedule to include an increase in instructional time. The students' needs are identified through diagnostic testing, informal classroom observations, and PARCC assessments. The instruction can either be differentiated instruction, nondifferentiated instruction, or a combination of the two instructional strategies. The data will drive the instruction and, the students' learning styles and preferences will determine the delivery or mode of instruction.

Differentiated instructional practices in school districts and classrooms have been shown to be an effective means of fostering students' reading comprehension. While much research exists to support differentiated instruction, many teachers, especially teachers in rural school districts, lack clear support, resources, and ongoing training to hone their teaching skills to effectively address the growing issue of students reading at or below their grade-levels in Eastern New Mexico. As a result of the study, administrators might consider a "round the clock" professional development program

developed and presented by teachers to teachers. Before teachers can challenge and stretch their students' minds, they must be willing and capable of adapting to the learning landscape facing educators in the 21st-century classrooms to adequately meet the interests, skills, and needs of their students.

According to Marx (2006), the purpose of education is to educate students so that they may be employable, live exciting lives, and be creative. To help foster and release the students' inner genius, rather than approach disruptions, such as technology in the classroom, as if they were barriers or obstacles to learning, a teacher should embrace the interruptions and learn to use them to enhance student motivation and engagement (Christensen et al., 2011). In essence, the teacher's job is to develop their students' 21st-century skills so they may be prepared for college, vocational training, or gainful employment (Baumann et al., 2007; Wagner, 2014).

According to Marx (2006), the goal of education is to educate students so that they may be employable, live exciting lives, and be creative. In its current state, the public education system is failing, at an alarmingly increasing rate, for a growing number of individuals (Hernandez, 2011). A change in attitude towards students' culture, socioeconomic status, teacher expectations, instruction, curriculum, and leadership needs to occur if the education system is to prepare its citizenry for a 21st-century global society (Wagner, 2014). Reading is at the foundation of this and differentiated instruction could provide a viable way to facilitate positive social change for 21st-century citizens. Thomas Jefferson was among the first Founding Fathers to advocate for a free and public school system. The concept of freedom, in theory, is the ability for an individual or group

to act, speak, or think as they want without the fear of retribution, incarceration, opposition, or domination from other individuals or groups. Furthermore, freedom allows for the independence, self-government, and autonomy of America's citizenry to self-rule itself in a free-thinking society organized with a form of government whose decision making resides in elected officials representing the citizenry. Knowledge gained with a quality education provides an educated citizenry with the tools to be independent thinkers, and self-reliant individuals capable and willing to contribute to the sustainment of a democratic society. Simply having the knowledge of issues affecting education is not enough to change the perceptions, policies, and procedures of the current school systems, regardless of logistics. The knowledge gained from research acts as the impetus for the concept of change leadership for those leaders with the end goal of social change (Hirsch, 2006).

Conclusion

The art of communication involves reading, writing, speaking, and listening. Third grade is crucial to the development of a child's education as they shift from learning to read to transition to using their reading skills to expand their knowledge (Ramos & Murphey, 2016). Literacy skills are needed to contribute to and participate in the sustainment of a free-thinking democratic society (Wagner, 2014). Differentiated instruction does have a significant effect on 3rd-grade students' reading comprehension, this according to the results of this study. An appropriate education provides all students regardless of their gender, race, ethnicity, or socioeconomic status, the right to a quality education to prepare them to contribute to the sustainment of a free-thinking democratic

society. Hence, it is hypothesized that students can and will learn the art of communication if exposed to the instruction that matches their skills, interests, learning preferences, and abilities.

A highly-skilled workforce is paramount to the sustainment of any degree of living. One way to ensure the level of excellence is maintained is for teachers to provide relevant material to their students in a multi-modal fashion. The overarching purpose of this study was to determine whether differentiated instruction had a meaningful effect on 3rd-grade students' reading comprehension. Based on the statistical analysis of the archived PARCC reading comprehension scores, the conclusion was made that differentiated instruction did significantly affect the students' academic performance. Educators who are experiencing a greater job satisfaction from across the nation are sharing in a common experience, and that is that they have the time and the place to share and collaborate with their colleagues. The most valuable expertise any school has is right inside their building and within their school district. The best people teachers learn from and help improve their practices are their colleagues. The same can be said about student learning. When the learning environment is structured where differentiated instruction is used as opposed to nondifferentiated instruction, the academic gains are endless because of the students sharing their experiences and knowledge and applying what they learn to form new knowledge. From the results, a call to action by teacher leaders is needed to continue with the practice of using differentiated instruction to target the students' specific skills, interests, and needs.

References

Ackerman, D. J., & Zoila, T. (2015). Enhancing young Hispanic dual language learners' achievement: Exploring strategies and addressing challenges. (Policy Information Report, ETS Research Report No. RR-15-01). Princeton, NJ: Educational Testing Service. http://dx.doi.org/10.1002/ets2.12045

Adler, M. J. (1982). *The Paideia proposal: An educational manifesto*. New York, NY: Simon & Schuster.

Adler, M. J., & Van Doren, C. (1972). *How to read a book.* New York, NY: Simon & Schuster.

Agra-Junker, D. B. (2013). Zone of proximal development, liminality, and communities: Implications for religious education. *Religious Education, 2*(108), 164-179. doi:10.1080/00344087.2013.767677

Ahmadian, M., & Tajabadi, A. (2017). Patterns of interaction in young EFL learners' pair work: The relationship between pair dynamics and vocabulary acquistion. *The Southeast Asian Journal of English Language Skills, 22*(3), 98-114. http://dx.doi/10.17576/3L-2017-2301-08

Alharbi, A. M. (2015). Building vocabulary for language learning: Approach for ESL learners to study new vocabulary. *Journal of International Students, 5*(4), 501-511. ISSN: 2162-3104. Print/ISSN 2166-3750 Online. Retrieved from https://files.eric.ed.gov/fulltext/EJ1066315.pdf

Ankrum, J., Genest, M., & Morewood, A. (2017). A description of contrasting discourse patterns used in differentiated reading instruction. *Journal of Research in*

Childhood Education, 31(3), 313-323. doi:10.1080/02568543.2017.1319442

Antonacci, P. A. (2000). Reading in the zone of proximal development: Mediating literacy development in beginner readers through guided reading. *Reading Horizon, 41*(1), 19-33. Retrieved from http://scholarworks.wmich.edu/cgi/viewcontent.cgi?article=1194&context=reading_horizons

Backhaus, K., & Liff, J. P. (2007). Cognitive styles and approaches to studying in management education. *Journal of Management Education, 31*(4), 446-466. doi:10.1177/1052562905284674

Baumann, J. F., Ware, D., & Edwards, E. C. (2007). "Bumping into spicy, tasty words that catch your tongue:" A formative experiment on vocabulary instruction. *Reading Teacher, 61*(2), 108-122. Retrieved from https://eric.ed.gov/?id=EJ776726

Beach, K. D., & O'Connor, R. E. (2015). Early response-to-intervention measures and criteria as predictors of reading disability in the beginning of third grade. *Journal of Learning Disabilities, 48*(2), 196-223. doi:10.1177/0022219413495451

Brinchmann, E. I., Hjetland, H. N., & Lyster, S. H. (2015). Lexical quality matters: Effects of word knowledge instruction on the language and literacy skills of third-and-fourth grade poor readers. *Reading Research Quarterly, 51*(2), 165-180. doi:10.1002/rrq.128

Bruner, J. (1960). *The process of education: A searching discussion of school education opening new paths to learning and teaching*. New York, NY: Random House.

Callahan, C. M., Moon, T. R., Oh, S., Azano, A. P., & Hailey, E. P. (2014). What works in gifted education: Documenting the effects of an integrated curricular/instructional model for gifted students. *American Educational Research Journal, 52*(1), 137-167. doi:10.3102/0002831214549448

Cervetti, G. N., & Hiebert, E. H. (2015). The sixth pillar of reading instruction. *The Reading Teacher, 68*(7), 548-551. doi:10.1002/trtr.1343

Chein, J. M., & Schneider, W. (2012). The brain's learning and control architecture. *Association for Psychological Science, 21*(2), 78-84. doi:10.1177/096372141143977

Christensen, C. M., Horn, M. B., & Johnson, C. W. (2011). *Disrupting class: How disruptive innovation will change the way the world learns*. New York, NY: McGraw-Hill.

Chung, S. F. (2012). Research-based vocabulary instruction for English language learners. *Reading Matrix: An International Online Journal, 12*(2), 105-120. Retrieved from http://www.vocabforell.pbworks.com/w/file/fetch/92126205/chung.pdf

Comings, J. P. (2015). An evidence-based model for early-grade reading. *Prospects, 45*(2), 167-180. doi:10.1007/s11125-014-9335-9

Connor, C. M., Spencer, M., Day, S. L., Giuliani, S., Ingebrand, S.W., McLean, L., & Morrison, F. J. (2014). Capturing the complexity: Content, type, and amount of instruction and quality of the classroom learning environment synergistically predict third graders' vocabulary and reading comprehension outcomes. *Journal*

of Educational Psychology, 106(3), 762-778. doi:10.1037/a0035921

Coy, P. G. (2014). Collective learning agreements as democratic practice and joint empowerment. *Conflict Resolution Quarterly, 31*(3), 229-256. doi:10.1002/crq.21087

Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson Education.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed method approaches* (4th ed.). Thousand Oaks, CA: Sage.

Darrow, A. A. (2015). Differentiated instruction for students with disabilities: Using DI in the music classroom. *General Music Today*, *28*(2), 29-32. doi:10.1177/1048371314554279

Dijkstra, E. M., Walraven, A., Mooij, T., & Kirschner, P. A. (2017). Factors affecting intervention fidelity of differentiated instruction of kindergarten. *Research Papers in Education, 32*(2), 151-169. doi:10.1080/02671522.2016.1158856

Doolittle, P. E. (1997). Vygotsky's zone of proximal development as a theoretical foundation for cooperative learning. *Journal on Excellence in College Teaching, 8*(1), 83-103. Retrieved from https://eric.ed.gov/?id=EJ577702

DuFour, R., DuFour, R., & Eaker, R. (2008). *Revisiting professional learning communities at work: New insights for improving schools*. Bloomington, IN: Solution Tree.

Edwards, C. M. (2014). Maternal literacy practices and toddlers' emergent literacy skills. *Journal of Early Childhood Literacy, 14*(1), 53-79.

doi:10.1177/1468798412451590

Elissa, M. A., & Mostafa, A. A. (2013). Integrating multiple intelligences and learning styles on solving problems, achievement in, and attitudes towards math in six graders with learning disabilities in cooperative groups. *International Journal of Psycho-Educational Sciences, 2*(2), 32-45. Retrieved from https://files.eric.ed.gov/fulltext/ED565626.pdf

Elleman, A. M., Lindo, E. J., Morphy, P., & Compton, D. L. (2009). The impact of vocabulary instruction on passage-level comprehension of school-age children: A meta-analysis. *Journal of Research on Educational Effectiveness, 2*(1), 1-44. doi:10.1080/19345740802539200

Eret, E., Gokmenoglu, T., & Engin-Demir, C. (2013). A review on educational theories and approaches affecting students' achievement:1990-2011. *Elementary Education Online, 12*(3), 687-700. Retrieved from http://ilkogretim-online.org.tr

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analysis using G*Power 3.1: Tests for correlation and regression analysis. *Behavior Research Methods, 41*(4), 1149-1160. doi:10.3758/BRM.41.4.1149

Firmender, J. M., Reis, S. M., & Sweeny, S. M. (2013). Reading comprehension and fluency levels range across diverse classrooms: The need for differentiated reading instruction and content. *Gifted Child Quarterly*, *57*(1), 3-14. doi:10.1177/0016986212460084

Fisher, D., & Frey, N. (2014). Content area vocabulary learning. *The Reading Teacher, 67*(8), 594-599. doi:10.1002/trtr.1258

Garcia-Madruga, J. A., Elosua, M. R., Gil, L., Gomez-Viega, I., Vila, J. O., Orjales, I., Contreras, A., Rodriguez, R., Melero, M. A., & Duque, G. (2013). Reading comprehension and working memory's executive processes: An intervention study in primary school students. *Reading Research Quarterly, 48*(2), 155-174. doi:10.1002/rrq.44

Gardner, H. (1993). *Multiple intelligences: The theory in practice.* New York, NY: Basic Books.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences.* New York, NY: Basic Books.

Gardner, H. (1999). *Intelligence reframed. Multiple intelligences for the 21st century.* New York, NY: Basic Books.

Gardner, H. (2006). *Development and education of the mind: The selected works of Howard Gardner.* London: Routledge.

Girard, L. C., Girolametto, L., Weitzman, E., & Greenberg, J. (2013). Educator's literacy practices in two emergent literacy contexts. *Journal of Research in Childhood Education, 27*(1), 46-60. doi:10.1080/02568543.2012.739591

Gleeson, M., & Davison, C. (2016). A conflict between experience and professional learning: Subject teachers' beliefs about teaching English language learners. *RELC Journal, 47*(1), 43-57. doi:10.1177/0033688216631221

Goodwin, B. (2011). Don't wait until the 4th grade to address the slump. *Educational Leadership*, *68*(7), 88-89. Retrieved from http://www.ascd.org/publications/educational-

leadership/apr11/vol68/num07/Don%27t-Wait-Until-4th-Grade-to-Address-the-Slump.aspx

Greenwood, C. R., Carta, J. J., Goldstein, H., Kaminski, R. A., McConnell, S. R., & Atwater, J. (2015). The center for response to intervention in early childhood: Developing evidence-based tools for a multi-tier approach to preschool language and early literacy instruction. *Journal of Early Intervention, 36*(4), 246-262. doi:10.1177/1053815115581209

Gregory, G. & Chapman, C. (2013). *Differentiated instructional strategies: One size doesn't fit all* (3rd ed.) Thousand Oaks, CA: Corwin.

Griess, C. J., & Keat, J. B. (2014). Practice what we preach: Differentiating instruction and assessment in a higher education classroom as a model of effective pedagogy for early childhood teacher education candidates. *Journal of Early Childhood Teacher Education*, *35*(1), 98-109. doi:10.1080/10901027.2013.874381

Griner, A. C., & Stewart, M. L. (2012). Addressing the achievement gap and disproportionality through the use of culturally responsive teaching practices. *Urban Education, 48*(4), 585-621. doi:10.1177/0042085912456847

Halpin, P. F., & Kieffer, M. J. (2015). Describing profiles of instructional practice: A new approach to analyzing classroom observation data. *Educational Researcher, 44*(5), 263-277. doi:10.3102/0013189X15590804

Handley, M. A., Lyles, C. R., McCulloch, C., & Cattamanchi, A. (2018). Selecting and improving quasi-experimental designs in effectiveness and implementation

research. *Annual Review of Public Health, 39*(1), 5-25. doi.org/10.1146/annurev-publichealth-040617-014128

Heidari, F., & Khorasaniha, N. (2013). Delving into the relationship between LOC, MI, and reading proficiency. *Journal of Language Teaching and Research, 4(*1), 89-96. doi:10.4304/jltr.4.1.89-96

Heo, J., Han, S., Koch, C., & Aydin, H. (July 2011). Piaget's egocentrism and language learning: Language egocentrism (LE) and language differentiation (LD). *Journal of Language Teaching and Research, 2*(4), 733-739. doi:10.4303/jltr.2.4.733.739

Hernandez, D. J. (2011). Double jeopardy: How third-grade reading skills and poverty influence high school graduation. *The Annie E. Casey Foundation*. Retrieved from http://education.ucf.edu/mirc/docs/doublejeopardy.pdf

Hewitt, K. K., & Weckstein, D. K. (2012). Differentiated instruction: Begin with teachers! *Kappa Delta Phi Record, 48*(1), 35-40. doi:10.1080/00228958.2012.654719

Hirsch, E. D. (2006). *The knowledge deficit: Closing the shocking education gap for American children*. Boston, MA: Houghton Mufflin.

Holloway, J., & Brass, J. (2018). Making accountable teachers: The terrors and pleasures of performativity. *Journal of Education Policy*, *33*(3), 361-368. doi:10.1080/02680939.2017.1372636

Huitt, W. (2005). Direct instruction: Robert Slavin's model. *Educational Psychology Interactive.* Valdosta, GA: Valdosta State University. Retrieved from http://www.edpsycinteractive.org/topics/instruct/dirinst.html

Jefferson, R. E., Grant, C. E., & Sander, J. B. (2017). Effects of tier I differentiation and reading intervention on reading fluency, comprehension, and high stakes measures. *Reading Psychology, 38*(1), 97-124. doi:10.1080/02702711.2016.1235648

Jones, R., Yssel, N., & Grant, C. (2012). Reading instruction in tier 1: Bridging the gaps by nesting evidence-based interventions with differentiated instruction. *Psychology in the Schools, 49*(3), 210-218. Retrieved from https://eric.ed.gov/?id=EJ989952

Joseph, S., Thomas, M., Simonette, G., & Ramsook, L. (2013). The impact of differentiated instruction in a teacher education setting: Successes and challenges. *International Journal of Higher Education, 2*(3), 28-40. doi:10:5430/ijhe.v2n3p28

Kelsey, B., & Carlisle, J. F. (2013). Learning about teachers' literacy instruction from classroom observations. *Reading Research Quarterly, 48*(3), 301-317. doi:10.1002/rrq.51

Kena, G., Hussar, W., McFarland, J., DeBrey, C., & Musu-Gillette, L. (2016). The condition of America. *The Institute of Education Sciences and The National Center for Educational Statistics (NCES)*. Retrieved from https://nces.ed.gov/pubs2016/2016144.pdf

Kiefer, M. J., & Lesaux, N. K. (2012). Knowledge of words, knowledge about words: Dimensions of vocabulary in first and second language learners in sixth grade. *Read Writ, 25*(2), 347-373. doi:10.1007/s11145-010-9272-9

Kikas, E., Jogi, A. L., Soodla, P., & Silinskas, G. (2016). Effects of teachers' individualized support on children's reading skills and interest in the classrooms with different teaching style. *Learning and Individual Differences, 49*(1), 270-277. doi:10.1016/j.lindif.2016.05.015

Kim, Y. S., Apel, K., & Otaiba, S. A. (2013). The relation of linguistic awareness and vocabulary to word reading and spelling for first-grade students participating in response to intervention. *Language, Speech, Hearing Services in Schools, 44*(4), 337-347. doi:10.1044/0161(2013/12-0013)

Konstantinou-Katzi, P., Tsolaki, E., Meletiou-Mavrotheris, M., & Koutselini, M. (2013). Differentiation of teaching and learning mathematics: An action research study in tertiary education. *International Journal of Mathematical Education in Science and Technology, 44*(3), 332-349. doi:10.1080/0020739X.2012.714491

Kucirkova, N., Messer, D., & Whitelock, D. (2012). Parents reading with their toddlers; The role of personalization in book engagement. *Journal of Early Childhood Literacy, 13*(4), 445-470. doi:10.1177/1468798412438068

Lapp, D., Grant, M., Moss, B., & Johnson, K. (2013). Students' close reading of science texts. *The Reading Teacher, 67*(2), 109-119. doi:10.1002/TRTR.1191

Lee, C., & Picanco, K. (2013). Accommodating diversity by analyzing practices of teaching (ADAPT). *Teacher Education and Special Education*, *36*(2), 132-144. doi:10.1177/0888406413483327

Lenhard, W., Baier, H., Endlich, D., Schneider, W., & Hoffmann, J. (2013). Rethinking strategy instruction: Direct reading strategy instruction versus computer-based

guided practice. *Journal of Research in Reading, 36*(2), 223-240. doi:10.1111/j.1467-9817.2011.01505.x

Lesaux, N. K., Kieffer, M. J., Kelley, J. G., & Harris, J. R. (2014). Effects of academic vocabulary instruction for linguistically diverse adolescents: Evidence from a randomized field trial. *American Educational Research Journal, 51*(6), 1159-1194. doi:10.3102/0002831214532165

LESC Overview-New Mexico Legislature (n.d.) Retrieved from https://www.nmlegis.gov/Entity/LESC/Overview

Lethaby, C., & Harries, P. (2016). Learning styles and teacher training: Are we perpetuating neuromyths? *ELT Journal, 70*(1), 16-27. doi:10.1093/elt/ccv051

Little, C. A., McCoach, D. B., & Reis, S. M. (2014). Effects of differentiated reading instruction on student achievement in middle school. *Journal of Advanced Academics, 25*(4), 384-402. doi:10.1177/1932202X14549250

Lodico, M., Spaulding, D., & Voegtle, K. (2010). *Methods in educational research: From theory to practice*. San Francisco, CA: John Wiley & Sons.

Ma, Y., & Lin, W. (2015). A study on the relationship between English reading comprehension and English vocabulary knowledge. *Education Research International, 2015*(1), 1-14. doi.org/10.1155/2015/209154

Magliaro, S. G., Lockee, B. B., & Burton, J. K. (2005). Direct instruction revisited: A key model for instructional technology. *Journal of Educational Research Technology and Development, 53*(4), 41-55. Retrieved from

https://pdfs.semanticscholar.org/f535/8dec17e81c0d8b931178904c460db76c0a6c.pdf

Mantik, O., & Choi, H. J. (2017). The effects of scaffolded think-group-share learning on Indonesian elementary schooler satisfaction and learning achievement in English class. *International Electronic Journal of Elementary Education, 10*(2), 175-183. doi:10.26822/iejee.2017236113

Marulis, L. M., & Neuman S. B. (2010). The effects of vocabulary intervention on young children's word learning: A meta-analysis. *Review of Educational Research*, *80*(3), 300-335. doi:10.3102/0034654310377087

Marx, G. (2006). *Future-focused leadership: Preparing schools, students, and communities for tomorrow's realities*. Alexandria, VA: Association for Supervision and Curriculum Development.

Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom instruction that works*. Alexandria, VA: ASCD.

McDonald, J. H. (2014). *Handbook of biological statistics* (3rd ed.). Baltimore, MD: Sparky House Publishing.

McNamara, D. S., Ozuru, Y., & Floyd, R. G. (2011). Comprehension challenges in the fourth grade: The roles of text cohesion, text genre, and readers' prior knowledge. *International Electronic Journal of Elementary Education, 4*(1), 229-257. Retrieved from https://eric.ed.gov/?id=EJ1070456

Meyers, L.S., Gamst, G., & Guarino, A.J. (2017). *Applied multivariate research: Design and interpretation.* Los Angeles, CA: Sage.

Molen, M.V., Henry, L., & Luit, J.V. (2014). Working memory development in children with mild to borderline intellectual disabilities. *Journal of Intellectual Disability Research, 58*(7), 637-650. doi:10.1111/jir.12061

Moller, J. S., Jorgensen, J. N., & Holmen, A. (2014). Polylingual development among Turkish speakers in a Danish primary school-a critical view on the fourth-grade slump. *International Journal of Bilingual Education and Bilingualism, 17*(1), 32-54. doi:10.1080/13670050.2012.635221

Morgan, H. (2014). Maximizing student success with differentiated learning. *The Clearing House, 87*(1), 34-38. doi:10.1080/00098655.2013.832130

Morgan, S.V., McLaughlin, T. F., Webe, K. P., & Bolich, B. (2016). Increasing reading fluency using Read Naturally with two third-grade students with specific learning disabilities: A replication of Erickson et al. *Educational Research Quarterly, 40*(1), 37-50. Retrieved from https://eric.ed.gov/?id=EJ1166736

Morrow, C. (2013). Caught or taught: Indirect and direct instruction. *TESOL Arabia Perspectives, 21*(2), 6-12. Retrieved from http://www.tesolarabia.org

Muzaffar, B. (2016). The development and validation of a scale to measure training culture: The TC scale. *Journal of Culture, Society and Development, 23*(1), 49-58. Retrieved from http://iiste.org/Journals/index.php/JCSD/article/download/33004/33900

National Center for Education Statistics (2013). *The Nation's Report Card: A First Look: 2013 Mathematics and Reading (NCES 2014-451*). Institute of Education Sciences, U.S. Department of Education, Washington, D.C.

National Education Association (2015). *ESSA Implementation Begins*. Retrieved from http://www.nea.org/essabegins

National Institute of Child Health and Human Development (NICHD). (2000). Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office.

Naylor, A. L., Wooldridge, B., and Lyles, A. (2014). U.S. public administration programs: Increasing academic achievement by identifying and utilizing student learning styles. *Teaching Public Administration, 32*(1), 68-79. doi:10.1177/0144739414522481

New Mexico Public Education Department (NMPED) (2015). *Acronym term description assessment acronym dictionary.* Retrieved from http://www.ped.state.nm.us/assessmentaccountability/assessmentevaluation/2015/Glossary%20of%20Terms%20-%20w%20descriptions%20-%20final.pdf

New Mexico and The Annie E. Foundation (n.d.). Retrieved from http://www.aecf.org/where-we-work/location/nm/

Nikolae, M. (2014). Teachers' beliefs as the differentiated instruction starting point: Research basis. *Procedia-Social and Behavioral Sciences, 128*(1), 426-431. Retrieved from http:www.sciencedirect.com/science/article/pii/S1877042814022733

O'Brien, B. (2012). The Campaign for Grade-Level Reading: Third Grade Reading Success Matters. Education Commission of the States, U.S. Department of Education Office of Civil Rights, Brookings Institution. Retrieved from http://gradelevelreading.net/wpcontent/uploads/2012/08/3rdGrade_retention r5.pdf

O'Neal, K. (2011). Literacy Facts. Retrieved from http://reading.org/?PHPSESSID= 53F958E027EB135707971592382A9f6a&c=67

Organization for Economic Cooperation and Development (OECD, 2016). Education Policy Outlook: Israel. Retrieved May 30, 2017, from http://www.oecd.org/israel/Education Policy-Outlook-Country-Profile-Israel.pdf

Ortlieb, E., & McDowell, F. D. (2016). Investigating the effects of an experimental approach to comprehension instruction within a literacy clinic. *Current Issues in Education, 19*(1), 1-16. Retrieved from http://cie.asu.edu/ojs/index.php/cieatasa/article/view/1437

Perren, S., Herrmann, S., Iljuschin, I., Frei, D., Korner, C., & Sticca, F. (2017). Child-centered educational practice in different early education settings: Associations with professional's attitudes, self-efficacy, and professional background. *Early Childhood Research Quarterly, 38*(1), 137-148. dx.doi.org/10.1016/j.ecresq.2016.07.001

Pilten, G. (2016). A phenomenological study of teacher perceptions of the applicability of differentiated reading instruction designs in Turkey. *Educational Sciences: Theory and Practice, 16*(4), 1419-1451. doi:10.12738/estp.2016.4.0011

Public School Review (n.d.). Retrieved from https://www.publicschoolreview.com

Puzio, K., & Colby, G. T. (2013). Cooperative learning and literacy: A meta-analytic review. *Journal of Research on Educational Effectiveness, 6*(4), 339-360. doi:10.1080/19345747.2013.775683

Ramos, M., and Murphey, D. (2016). Latinos and literacy: Hispanic students' progress in reading. *Child Trends Hispanic Institute, 3*(13), 1-20. Retrieved from www.childtrends.org/wp-content/uploads/2016/03/2016-13LatinosandLiteracy.pdf

Rodicio, H. G., Melero, M.A., & Izquierdo, M. B. (2018). A comparison of reading loud, silent reading and follower reading. Which is best for comprehension? *Journal for the Study of Education and Development, 41*(1), 138-164. doi:10.1080/02103702.2017.1364038

Roskos, K., & Neuman, S. B. (2014). Best practices in reading: A 21st-century skill update. *The Reading Teacher, 67*(7), 507-511. doi:10.1002/trtr.1248

Saengpakdeejit, R. (2014). Awareness of vocabulary learning strategies among EFL students in Khon Kaen University. *Theory and Practice in Language Studies, 4*(6), 1101-1018. doi:10.4304/tpls.4.6.1101-1108

Sandvik, J. M., Daal, V. H., & Ader, H. J. (2014). Emergent literacy: Preschool teachers' beliefs and practices. *Journal of Early Childhood Literacy, 14*(1), 28-52. doi:10.1177/1468798413478026

Santisteban, L. N. (2014). The effects of differentiated instruction on the literacy process of learners with interrupted schooling. *Gist Education and Learning Research*

Journal, 9*,* 31-49. Retrieved from https://files.eric.ed.gov/fulltext/EJ1062662.pdf

Skandera, H. (2016). *New Mexico school grading: Technical guide calculation and business rules*. Retrieved from https://aae.ped.state.nm.us/SchoolGradingLinks

Slavin, R. E., Cheung, A., Groff, C., & Lake, C. (2008). Effective reading programs for middle and high schools: A best-evidence synthesis. *Reading Research Quarterly, 43*(3), 290-322. doi:10.1598/RRQ.43.3.4

Smit, R., & Humpert, W. (2012). Differentiated instruction in small schools*. Teaching and Teacher Education*, *28*(8), 1152-1162. doi:10.1016/j.tate.2012.07.003

Snel, M. J., Terwel, J., Aarnoutse, C. A. J., & Van Leeuwe, J. F. (2012). Effectiveness of guided co-construction versus direct instruction for beginning reading instruction. *Educational Research and Evaluation, 18*(4), 353-374. doi:10.1080/13803611.2012.682803

Spencer, M., Quinn, J. M., & Wagner, R. K. (2014). Specific reading comprehension disability: Major problem, myth or misnomer? *Learning Disabilities Research & Practice, 29*(1), 3-9. doi:10.1111/ldrp.12024

Stevens, E. A., Walker, M. A., & Vaughn, S. (2017). The effects of reading fluency interventions on the reading fluency and reading comprehension performance of elementary students with learning disabilities: A synthesis of the research from 2001 to 2014. *Journal of Learning Disabilities, 50*(5), 576-590. doi:10.1177/0022219416638028

Stover, K., Yearta, L., & Harris, C. (2016). Formative assessment in the digital age: Blogging with third graders. *The Reading Teacher, 69*(4), 377-381. doi:10.1002/trtr.1420

Subban, P. (2006). Differentiated instruction: A research basis. *International Education Journal, 7*(7), 935-947. Retrieved from https://files.eric.ed.gov/fulltext/EJ854351.pdf

Suprayogi, M. N., Valcke, M., & Godwin, R. (2017). Teachers and their implementation of differentiated instruction in the classroom. *Teaching and Teacher Education, 67*(1), 291-301. doi:10.1016/j.tate.2017.06.020

Tang, X., Kikas, E., Pakarien, E., Lerkkanen, M. K., Muotka, J., & Nurmi, J. E. (2016). Profiles of teaching practices and reading skills at the first and third grade in Finland and Estonia. *Teaching and Teacher Education, 64*(1), 150-161. doi:10.1016/j.tate.2017.01.020

Taylor, B. K. (2015). Content, process, and product: Modeling differentiated instruction. *Kappa Delta Phi Record, 51*(1), 13-17. doi:10.1080/00228958.2015.988559

Teemant, A. (2014). A mixed-methods investigation of instructional coaching for teachers of diverse learners. *Urban Education, 49*(5), 574-604. doi:10.1177/0042085913481362

Tomlinson, C. A. (2005). Grading and differentiation: Paradox or good practice? *Theory Into Practice, 44*(3), 262-269. Retrieved from https://www.jstor.org/stable/3497006

Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all*

learners. Arlington, VA: Association of Supervision and Curriculum Development.

Uccelli, P., Barr, C. D., Menses, A., & Dobbs, C. L. (2015). Beyond reading: Exploring cross-disciplinary academic-language proficiency and its association with reading comprehension. *Reading Research Quarterly, 50*(3), 337-357. doi:10.1002.rrq.104

Unger, M. (2011). The social ecology of resilience: Addressing contextual and cultural ambiguity of a nascent construct. *American Journal of Orthopsychiatry*, *81*(1), 1-17. doi:10.1111/j1939-0025.2010.0167.x

Uytterbrouck, O. (2016). *Education quality report ranks NM 49th in the nation*. Retrieved from https://www.abqjournal.com/702674/nm-49th-in-report-on-education-quality.html

Vadasy, P. F., & Sanders, E. A. (2013). Two-year follow-up of a code-oriented intervention for lower-skilled first-graders: The influence of language status and word reading skills on third-grade literacy outcomes. *Reading and Writing, 26*(6), 821-843. doi:10.1007/s11145-012-9393-4

Valiandes, S. (2015). Evaluating the impact of differentiated instruction on literacy and reading in mixed ability classrooms: Quality and equity dimensions of education effectiveness. *Studies in Educational Evaluation, 45*(1), 17-26. doi:10.1016/j.stueduc.2015.02.005

Varga, A. (2017). Metacognitive perspective on the development of reading comprehension: A classroom study of literary text-talks. *Literacy, 51*(1), 19-25. https://doi.org/10.1111/lit.12095

Vaughn, M., Parsons, S. A., Gallagher, M. A., & Branen, J. (2015). Teachers' adaptive instruction supporting students' literacy learning. *The Reading Teacher, 69*(5), 539-547. doi:10.1002/trtr.1426

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Wagner, T. (2014). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need—and what we can do about it*. New York, NY: Basic Books.

Walden University (2013). *Ed.D. Program Candidate Handbook.* Retrieved from http://inside.waldenu.edu/c/Files/DocsGeneral/EdD_Handbook_Final.pdf

Wanzek, J., & Roberts, G. (2012). Reading interventions with varying instructional emphases for fourth graders with reading difficulties. *Learning Disability Quarterly, 35*(2), 90-101. doi:10.1177/0731948711434047

Wei, W. S., & Attan, A. (2014). Comparing intentional vocabulary learning strategies of rote-copying versus read-plus. *The Southeast Asian Journal of English Language*

Studies, 20(2), 67-80. http://dx.doi.org/10.17576/3L-2014-2002-06

Williams, R. T., Swanlund, A., Miller, S., Konstantopoulos, S., Eno, J., van der Ploeg, A., & Meyers, C. (2014). Measuring instructional differentiation in a large-scale experiment. *Educational and Psychological Measurement, 74*(2), 263-279. doi:10.1177/0013164413507724

Wood, D. J., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychiatry and Psychology, 17*(2), 89-100. doi:10.1111/j.14697610.1976.tb00381.x

World Literacy Foundation (2015). The Economic and social cost of illiteracy: A snapshot of illiteracy in a global context. Retrieved from https://worldliteracyfoundation.org/wp-content/uploads/2015/02/WLF-FINAL-ECONOMIC-REPORT.pdf

Appendix A: Data Use Agreement

DATA USE AGREEMENT

This Data Use Agreement, effective as of ( ), is entered into by and between Deborah Davidsen and The School District. The purpose of this Agreement is to provide Data Recipient with access to a Limited Data Set ("LDS") for use in research in accord with the HIPAA and FERPA Regulations.

1. Definitions. Unless otherwise specified in this Agreement, all capitalized terms used in this Agreement not otherwise defined have the meaning established for purposes of the "HIPAA Regulations" codified at Title 45 parts 160 through 164 of the United States Code of Federal Regulations, as amended from time to time.

2. Preparation of the LDS. Data Provider shall prepare and furnish to Data Recipient a LDS in accord with any applicable HIPAA or FERPA Regulations

Data Fields in the LDS. **No direct identifiers such as names may be included in the Limited Data Set (LDS).** The researcher will also not name the organization in the doctoral project report that is published in ProQuest. In preparing the LDS, Data Provider or designee shall include the **data fields specified as follows**, which are the minimum necessary to accomplish the research: I will use the archived PARCC reading scores for the study. The identifiers required are: the testing year i.e. 2015, 2016, or 2017; the ELA PARCC summative scaled score, the level of performance i.e. level 1-did not meet expectations, level 2-partially met expectations, level 3- approached expectations, level 4- met expectations, and level 5-exceeded expectations, and based on the administrator's classroom observations using a standardized rubric, whether the instruction was differentiated (student-centered) or nondifferentiated (teacher-led).

3. Responsibilities of Data Recipient. Data Recipient agrees to:

    a. Use or disclose the LDS only as permitted by this Agreement or as required by law;

    b. Use appropriate safeguards to prevent use or disclosure of the LDS other than as permitted by this Agreement or required by law;

c. Report to Data Provider any use or disclosure of the LDS of which it becomes aware that is not permitted by this Agreement or required by law;

d. Require any of its subcontractors or agents that receive or have access to the LDS to agree to the same restrictions and conditions on the use and/or disclosure of the LDS that apply to Data Recipient under this Agreement; and

e. Not use the information in the LDS to identify or contact the individuals who are data subjects.

4. Permitted Uses and Disclosures of the LDS. Data Recipient may use and/or disclose the LDS for its research activities only.

5. Term and Termination.

a. Term. The term of this Agreement shall commence as of the Effective Date and shall continue for so long as Data Recipient retains the LDS, unless sooner terminated as set forth in this Agreement.

b. Termination by Data Recipient. Data Recipient may terminate this agreement at any time by notifying the Data Provider and returning or destroying the LDS.

c. Termination by Data Provider. Data Provider may terminate this agreement at any time by providing thirty (30) days prior written notice to Data Recipient.

d. For Breach. Data Provider shall provide written notice to Data Recipient within ten (10) days of any determination that Data Recipient has breached a material term of this Agreement. Data Provider shall afford Data Recipient an opportunity to cure said alleged material breach upon mutually agreeable terms. Failure to agree on mutually agreeable terms for cure within thirty (30) days shall be grounds for the immediate termination of this Agreement by Data Provider.

e. Effect of Termination. Sections 1, 4, 5, 6(e) and 7 of this Agreement shall survive any termination of this Agreement under subsections c or d.

6. Miscellaneous.

a. Change in Law. The parties agree to negotiate in good faith to amend this Agreement to comport with changes in federal law that materially alter either or both parties' obligations under this Agreement. Provided

however, that if the parties are unable to agree to mutually acceptable amendment(s) by the compliance date of the change in applicable law or regulations, either Party may terminate this Agreement as provided in section 6.

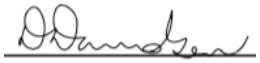
b. Construction of Terms. The terms of this Agreement shall be construed to give effect to applicable federal interpretative guidance regarding the HIPAA Regulations.

c. No Third-Party Beneficiaries. Nothing in this Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

d. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

e. Headings. The headings and other captions in this Agreement are for convenience and reference only and shall not be used in interpreting, construing or enforcing any of the provisions of this Agreement.

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

DATA PROVIDER	**DATA RECIPIENT**
Signed: _____	Signed: 
Print Name: _____	Print Name: Deborah Davidsen
Print Title: _____	Print Title: Doctoral Student

Appendix B: Classroom Walk-Through Form

Classroom Walk-Through Form

School: _____Date/Period: _____

Teacher: _____Content Area: _____

Observer: _____

Class Environment

Class Configuration	Classroom Environment	Evidence of Emphasis on CCSS	Lesson Plans
□ Rows facing front □ Horseshoe □ Groups □ Other: _____ Suitable for lesson □ Yes □ No	□ Student displayed as exemplar □ Organized and inviting □ Technology available to students □ Bell work aligned to learning objective □ Other: _____	□ CCSS and essential question posted □Learning objective posted and in student-friendly terms □ Learning outcomes explicitly described by teacher	□ Differentiated □ Standards and Benchmarks referenced □ Objectives identified □ Assessment is varied □ Multiple days planned □ Evidence of lessons matching students' learning styles and preferences □ Other: _____

What the Teacher is Doing **What the Students are Doing**

Teacher interactions with Students	Students Interaction with Teacher and Peers
□ Coaching/conferencing (small groups/individuals) □ Facilitating discussion involving students □ Posing questions to students □ Demonstrating □ Monitoring group or individual work □ Teacher working independently □ Lecture □ Other: _____ Instruction □ Uses a variety of questioning strategies □ Taps into students' prior knowledge □ Bridges new "unknown" materials to "known" □ Modifies instruction as needed using strategies such as scaffolding, expansion, demonstration, modeling □ Modifies language input to meet students' needs (rate of speech, controlled vocabulary, careful use of idioms) □ Uses extra-linguistic cues (gestures, facial	□ Discussing □ Group work/partner work □ Listening/viewing □ Presenting/performing □ Test/quiz □ Down time □ Project/problem-based learning □ Lab/hands-on student work □ Using technology □ Independent drill/worksheet/text/seat work □ Other: _____ Bloom's Taxonomy Level □ Knowledge/Remembering *(recognize, list, define,* *repeat)* □ Comprehension *(translate, explain, summarize,* *paraphrase, describe, classify, locate)* □ Application *(apply, illustrate solve, interpret)* □ Analysis *(compare, appraise, differentiate)* □ Synthesis/Put together *(arrange, design, develop)*

expressions) to emphasize or clarify meaning □ Allows ample wait time after asking questions □ Assessment (formal or informal) □ Rubric supplied/used □ Evidence of visual, auditory, tactile/kinesthetic in lesson □ Other: _____ Evidence of Emphasis on Literacy □ Use of reading to learn strategies □ Use of writing to learn strategies Evidence of Emphasis on Integration □ Cross-curricular connections □ Interdisciplinary unit □ Application of skills and/or content from other classes	□ Evaluation/Judgement *(hypothesize, critique, check)* □ NA/Down time Immediate Teacher Feedback: Wow! Wonder?

Appendix C: NMTEACH Educator Evaluation System

Performance Standard Domain: 1E Planning and Preparation

Domain 1: Planning and Preparation		
Element		NMTEACH 1E: Demonstrating Knowledge of Students • To what level have student learning styles have been addressed in the lesson? • How has information about student achievement, culture, and language proficiency been used to design activities to support content acquisition?
Level of Performance	(Level 1) Ineffective	The teacher demonstrates: • little or no knowledge of students' backgrounds, cultures, skills, academic language development, interests, and/or special needs, including present levels of performance for applicable content areas and behavioral issues; • little or no evidence of using student achievement data to design activities to differentiate instruction; and • little or no knowledge of students' learning styles.
	(Level 2) Minimally Effective	The teacher demonstrates: • limited knowledge of students' backgrounds, cultures, skills, academic language development, interests, and/or special needs, including present levels of performance for applicable content areas and behavioral issues; • limited evidence of using student achievement data to design activities to differentiate instruction; and • limited knowledge of students' learning styles.
	(Level 3)	The teacher:

	Effective	• demonstrates knowledge of students' backgrounds, cultures, skills, academic language development, interests, and/or special needs, including present levels of performance for applicable content areas and behavioral issues as well as accommodations and modification for individual students, as applicable; • incorporates culturally-sensitive strategies into instructional planning and practice; • provides moderate evidence of using student achievement data to differentiate instruction; • develop lessons using a variety of strategies to incorporate learning styles.
	(Level 4) Highly Effective	In addition to the indicators for effective, the teacher: • demonstrates extensive knowledge of students' backgrounds, cultures, skills, academic language development, interests, and/or special needs, including present levels of performance for applicable content areas and behavioral issues as well as accommodations and modification for individual students, as applicable; • includes the students in the planning of culturally sensitive strategies and incorporates those into instructional practice; • provides strong evidence of using student achievement data to differentiate instruction; • uses a wide repertoire D of strategies to integrate a variety incorporate learning styles into lessons and activities.
	(Level 5) Exemplary	In addition to the indicators for effective, the teacher: • provides novice and struggling teachers with understanding, mentorship, and resources that address the unique learning needs of their individual students, including strategies that engage and support culturally linguistically diverse students; and • provides training to colleagues on differentiated instructional strategies that engage and support culturally and linguistically diverse students.

Appendix D: NMTEACH Educator Evaluation System

Performance Standard Domain: 3C Teaching for Learning

Domain 3: Teaching for Learning		
Element		NMTEACH 3C: Engaging Students in Learning To what level are all students engaging in the lesson? To what level are activities sequential and aligned to the daily learning target? To what level are all students required to be intellectually engaged with the course content?
Level of Performance	(Level 1) Ineffective	Activities, assignments, materials, pacing, and grouping of students are inappropriate to the learning outcomes, language proficiency levels, and applicable IEP goals resulting in low student engagement.
	(Level 2) Minimally Effective	Activities, assignments, materials, pacing, and grouping of students are inappropriate to the learning outcomes, language proficiency levels, and applicable IEP goals resulting in moderate student engagement in which • the teacher does not connect the prior understanding; • the lesson activities do not align with the desired learning outcomes; • the lesson structure is not fully maintained; and • the pacing is somewhat appropriate for some learners.
	(Level 3) Effective	Activities, assignments, materials, pacing, and grouping of students are inappropriate to the learning outcomes, language proficiency levels, and applicable IEP goals resulting in good student engagement in which

		• the teacher explicitly connects the lesson to prior understanding and student background experiences; • the lesson supports active engagement of all students and maintains an awareness of the effective amount of student talk vs. teacher talk; • the teacher delivers lessons coherently with attention to scaffolding, sequencing, flexible grouping, student reflection, and closure; • the teacher incorporates cognitive, developmental, linguistic, and cultural experiences to support learning; • the teacher assesses student engagement and understanding and adapts methods for improved learning when needed; and • students are strategically grouped to provide opportunities to practice speaking, reading, writing, and listening, based on their instructional needs.
	(Level 4) Highly Effective	In addition to the indicators for effective: Activities, assignments, materials, pacing, and grouping of students are inappropriate to the learning outcomes, language proficiency levels, and applicable IEP goals resulting in high intellectual student engagement in which • the teacher provides opportunities for students to lead reading, writing, speaking, and listening activities throughout the lesson; • students incorporate cognitive, developmental, linguistic, and cultural experiences to support learning; • the lesson incorporates multiple means of representation, expression, and engagement; • the teacher encourages students to negotiate meaning and clarify understanding with their peers, which may be supported using a language other than English, as appropriate, and; • the teacher consistently assesses student engagement and understanding and immediately adapts methods for improved learning when needed.
	(Level 5)	In addition to the indicators for highly effective:

	Exemplary	• uses data to support and guide student engagement and is able to demonstrate to colleagues and community members how this works; and •creates opportunities to support and mentor colleagues by sharing knowledge, information, and differentiated instructional strategies for engaging students in their learning.

Appendix E: NMTEACH Educator Evaluation System

Performance Standard Domain: 3E Teaching for Learning

Domain 3: Teaching for Learning		
Element		NMTEACH 3E: Demonstrating Flexibility and Responsiveness • To what level does the teacher modify the instruction within the lesson/period?
Level of Performance	(Level 1) Ineffective	The teacher • disregards students' learning needs; • adheres to the instructional plan, even when a change would maximize learning; and • does not accept responsibility for students' lack of academic progress.
	(Level 2) Minimally Effective	The teacher • accepts minimal responsibility for student success; • attempts to modify the lesson, responds to students' questions with moderate success, but has a limited repertoire of strategies to draw upon; and • does not use strategies to support diverse learners.
	(Level 3) Effective	The teacher modifies the instruction within the lesson/class period by • promoting successful learning of all students; • modifying instruction according to applicable IEPs; • adjusting instructional plans and making accommodations for student questions, needs, and interests, while taking into account the language demands and grade level appropriateness of the content and instruction;

		• adjusting instructional plans by employing a variety of instructional strategies and techniques that are responsive to students' needs, proficiency, culture and/or experiences; and • adjusting the lesson based on periodic checking for understanding and/or formative assessments for all students.
	(Level 4) Highly Effective	In addition to the indicators for effective, the teacher modifies the instruction within the lesson/class period by • seizing opportunities to enhance learning by building on a spontaneous event or student interests; • creating opportunities for student-led instruction, discussion, and/or questioning; • appealing to student interests and making cultural connections to learning outcomes; and • ensuring the success of all students by using an extensive repertoire of instructional strategies in order to anchor instruction and help students make sense of content.
	(Level 5) Exemplary	In addition to the indicators for highly effective, the teacher leader • reflects on classroom practice and uses students' participation and responses to pace and adjust lessons during instruction; • enhances students' depth of knowledge through the use of activities and resources that show connections to students' cultures, experiences, and level of development; •engages in opportunities to support and mentor colleagues by sharing knowledge, information, and instructional strategies demonstrating flexibility and responsiveness; and • creates opportunities for colleagues and/or community members to enhance their depth of knowledge regarding flexible teaching and responsiveness.