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Elementary Reading Teachers' Perceptions About Differentiated Instruction

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This is to certify that the doctoral study by

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Walden University
2020

Abstract

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MA, Christian Brothers University, 2001

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

The local school district mandated the implementation of differentiated instructional (DI) strategies to strengthen students' reading skills and curtail literacy deficits. The problem addressed by this study was that elementary reading teachers experienced difficulty implementing DI in their mixed-ability classrooms. The purpose of this study was to investigate the local elementary reading teachers' perceptions about using DI in the classroom and to explore what teachers believed was needed to improve the effectiveness of their practice. Tomlinson's DI model and Vygotsky's theory of constructivism formed the conceptual framework that guided this study. The research questions focused on reading teachers' perceptions about using DI in the classroom and about their perceptions of DI skills needed to improve their instructional effectiveness. A basic qualitative design was used to capture the insights of 10 reading teachers through semistructured interviews; purposeful sampling was used to select the participants. Emergent themes were identified through open coding, and the findings were developed and checked for trustworthiness through member checking and rich descriptions. The findings revealed that participants identified DI as a challenging instructional method requiring specific resources, administrator support, and professional development. This study may contribute to positive social change by providing teachers and administrators with a deeper understanding of practices that are needed to increase the effective implementation of DI to improve student performance in reading skills.

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Dedication

This dissertation is dedicated to God for giving me the wisdom and the courage to further my education. I also dedicate this work to my sons Donald L. Emory Jr. and Devin L. Emory, and their grandmother Mrs. Evalena Emory, who showed faith, excitement, and conviction that my direction had already been chartered. I thank God for placing my aunt, Mrs. Vear Scott Wilbourn (mother), and my grandmother, Mrs. Grace Allen Scott, as positive influences in my life. These two women taught me that *all things are possible* through our Lord and Savior, Jesus Christ. This foundation allowed me to move forward with the necessary determination and self-assurance to complete this doctoral journey. *To GOD Be The Glory!*

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Chapter 1: Introduction to the Study

Growing diversity in today's classrooms across the United States presents a challenge for educators. School districts nationwide have experienced rapid growth in the number of students of varied ethnicities, cultures, languages, and socioeconomic status, as well as students with mixed learning abilities (Howard, 2012; Suprayogi, Valckea, & Godwin, 2017). A broad range of student learning abilities and learning needs are represented in school student populations. As diversity in schools continues to increase, so does the need for innovative educational practices. Creating educational opportunities that take into consideration students' diverse learning needs is one of the priorities of school leaders and policymakers (U.S. Department of Education, 2010). According to a 2015 report from the National Center for Education Statistics, only 36% of fourth grade students in the United States scored proficient in reading (Kena et al., 2015). Fourth grade students' reading performance increased slightly to 37% in 2017 (McFarland et al., 2018). Kena et al. (2015) suggested that low performance could be an indicator that teachers are having trouble identifying appropriate differentiated teaching strategies to assist struggling readers. According to Smets (2017), many teachers find it difficult to provide appropriate teaching opportunities for a variety of learners. Differentiated instruction (DI) is a teaching approach in which teachers acknowledge and respond to the variety of learning abilities to provide all students with customized learning tasks (Tomlinson, 2014).

This study was conducted at a local elementary Grades K-5 Title I school located in the Southeastern region of the United States. Schools classified as Title I have a high

percentage of students from low-income families (National Center for Education Statistics, 2019). Title I schools must have at least 40% or higher of their students eligible for free or reduced lunch (U.S. Department of Education, 2018a). Since 2013, the local elementary school's results on the state standardized reading assessment reflected low reading achievement for students in Grades 3-5 (Tennessee Department of Education [TDOE], 2014). Addressing literacy early is a major catalyst for student success in all areas of academic performance (TDOE, 2017). In 2014, in response to school district mandates, administrators at the local elementary school required all teachers to implement DI to help improve literacy and increase students' declining achievement in reading. DI is the focus of this study.

Identifying how teachers experience DI may potentially contribute to increasing the effectiveness of the implementation of the DI approach. Effective implementation may assist in improving the quality of the learning process by helping students meet or exceed the state reading standards. The results of this study may increase awareness of DI professional development needs as teachers reflect on what the participants believe was needed to improve DI skills to work appropriately with diverse groups of students. This study may contribute to positive social change by providing educators and district leaders a deeper understanding of the use of DI as an effective instructional approach for improving students' reading achievement, potentially leading to better performance on the state standardized reading assessment. The findings may also have implications for identifying barriers for implementing DI and how to overcome them.

In Chapter 1, I align the components of the study including the problem statement, purpose of the study, research questions, and conceptual framework. Differentiation is the focus of each section. Additionally, I present the research design and methodology, along with the scope and the delimitations of the study.

Background

Kessinger (2013) predicted that the future career and academic success of third graders will be based on students becoming proficient in reading by the time they leave third grade. According to Snyder, de Brey, and Dillow (2018), students' reading skills in the United States showed no significant improvement in the past decade. Referring to national data, Guernsey, Levine, Chiong, and Severns (2014) reported that 80% of students from low socioeconomic backgrounds are not acquiring proficient reading skills. Also, Snyder et al. (2018) indicated 90% of English language learners in the United States score less than proficient in reading.

While diversity provides a variety of experiences that can enrich the classroom environment, it can be challenging for teachers to adapt instruction for students of different levels of achievement (Delisle, 2015). Brighton, Moon, and Huang (2015) declared that DI is a teaching approach where teachers adapt instruction to acknowledge and support students' differences. By using this approach, teachers can modify their instruction to meet students' varying readiness levels, learning preferences, and socioeconomic, ethnic, and cultural differences (Callahan, Moon, Oh, Azano, & Hailey, 2015).

A local urban elementary public school was experiencing low proficiency in reading (TDOE, 2014). Due to low performance across the local school district, the district's goal was to increase proficiency in reading by 2025. The strategic goal, Destination 2025, is to curtail literacy deficits by strengthening reading skills for students in Grades K-3 (TDOE, 2017). In 2014, DI was implemented districtwide as a systemic approach to meeting the goal. Based on school district requirements, the local elementary school implemented DI as a teaching method to increase the students' low reading scores (TDOE, 2015). In school district sponsored face-to-face workshops, district leaders provided teachers with a variety of examples of what DI is and what it is not. The district sought to create a common definition and clarify its support of DI as a viable strategy through its published work, a *Differentiated Handbook* (Hockett, 2018). Each administrator provided teachers with professional development opportunities and allotted time for lead teachers and instructional coaches to observe in teachers' classrooms to monitor the implementation of DI and give feedback on their DI practices (instructional program manager, personal communication, May 2017). Educators are mandated to see that all students meet the standards of their school district and state (Dixon, Yssel, McConnell, & Hardin, 2014; U.S. Department of Education, 2010). "Student differences matter, and effective teachers attend to those differences thoughtfully and proactively" (Tomlinson & Imbeau, 2010. p. 4). Professional competencies and skills are believed to be crucial factors in classroom and school practices (Stronge, 2018). Bridging the gap between research and practice provided a challenge for the local elementary school staff to implement DI effectively to improve students' reading achievement. Joseph, Thomas,

Simonette, and Ramsock (2013) suggested that while teachers understand the concept of DI, they often experience difficulties integrating the method in their classrooms. Gentry, Sallie, and Sanders (2013) emphasized that teachers make the classroom more responsive to student needs when implementing DI using a systematic approach. In this study, I investigated the local elementary reading teachers' perceptions about using DI in the classroom and about DI strategies that work best to improve teacher practices to address the diverse needs of individual students.

Problem Statement

Researchers, school districts, and policymakers have raised concerns about reading achievement, particularly among students in low performing schools (Allington, & McGill-Franzen, 2018; Banerjee, 2016; Lewis, James, Hancock, & Hill-Jackson, 2008; U.S. Department of Education, 2018b). When it comes to addressing learner differences, there is no one-size-fits-all approach or strategy (Santangelo & Tomlinson, 2012). The problem that prompted this study was that reading teachers at the local elementary school experienced difficulty when implementing DI in their mixed-ability classrooms. The district required teachers to implement DI as one approach to improve student achievement in reading. According to Tomlinson (2014), DI is a technique for planning and delivering instruction to increase each student's ability to learn. DI is a strategy that is often used to plan and teach in inclusive classrooms to support diverse learners. According to Guernsey et al. (2014), teachers struggle to provide students with focused learning activities in the classroom. In most cases, teachers believe teaching approaches that work for one student may not work for another student (Guernsey et al., 2014).

In 2014-2015, the TDOE reported that elementary and middle school students' reading scores on the state standardized assessment showed that 5.7% of the students were considered to have mastered the content, 28.1% of the students were on track, 44.7% were approaching, and 21.5% of students were below grade level (TDOE, 2015). The study site ranked as one of the lowest performing schools in the district. As shown in Table 1, by the end of the 2016-2017 school year, reading achievement at the local elementary school had declined 19%. J. Jones (2018) reported that on the 2017 state assessment only 11.6% of the local elementary school students were considered to have mastered the content.

Table 1

Standardized Reading Assessment Results from 2014-2017

	Percent proficient in reading	Percent of growth
2013-14	30.4	6.0
2014-15	17.8	-12.6
2015-16	Testing suspended / Vendor error	No data
2016-17	11.6	-6.2

Note. 2013-14 and 2014-15 data were retrieved from TDOE TCAP Results at a Glance: https://www.tn.gov/education/data/tcap-results-at-a-glance/2014-tcap-results.html and https://www.tn.gov/education/data/tcap-results-at-a-glance/2015-tcap-school-results.html. 2016-17 data were retrieved from https://chalkbeat.org/posts/tn/2018/08/16/how-did-your-school-perform-on-tnready-tests-search-here-for-results/

At the time students were assessed, teachers at the local elementary school were using differentiated instructional strategies in the classroom, yet data showed students were still not meeting the established benchmarks (TDOE, 2015).

Classroom teachers are challenged with meeting the diverse needs of students who have varying academic learning abilities (Grierson & Woloshyn, 2013). According to Morgan (2014), teachers do not know how to adjust teaching strategies effectively and efficiently during their teaching and learning processes or how to adapt the curriculum materials for diverse populations. Prescott, Bundschuh, Kazakoff, and Macaruso (2018) indicated that many educators believe implementing DI in the classroom is a daunting task because teachers must think about the curriculum and instruction in a new way. Elementary teachers who are more knowledgeable about teaching language and literacy may have difficulty incorporating DI into a science lesson because they are less trained in this area (Grierson & Woloshyn, 2013).

Several researchers mentioned barriers to implementing DI with fidelity. Whipple (2012) explored elementary teachers' perceptions in an urban elementary school district in Massachusetts. The researcher found that even though DI is recognized as a worthwhile practice for addressing students' individual instructional needs, there is a disconnect between teachers' understanding of DI and their implementation of it. McMaster and Fuchs (2016) suggested teachers are struggling to implement DI in the classroom because they are not getting sufficient training. Table 2 displays barriers to implementing DI as reported in the studies of Dijkstra, Walraven, Mooij, and Kirschner (2017), Rodriguez (2012), Smit and Humpert (2012), as well as those mentioned by teachers at the study site. I also explore barriers for implementing DI in later sections.

Table 2

Barriers Faced by Teachers When Implementing Differentiated Instruction

Source	Barriers
Dijkstra et al. (2017)	• Teacher beliefs • Administrator support • Low teacher motivation
Rodriguez (2012)	• Takes too much preparation time • Lack of support
Smit and Humpert (2012)	• Need more resources • Lack of appropriate training
Local study site	• Need more training • Complexity of innovations • Time • Overwhelmed with student's diverse needs • Low teacher morale

Note: Barriers were reported from research and through personal communication.

Claessens, Engel, and Curran (2014) pointed out that teachers must adjust both their instructional delivery and the curriculum to meet the needs of students. When teachers do not understand how to differentiate instructional strategies, teachers struggle and feel inadequate about instructing students (Claessens et al., 2014). When teachers attempt to address students' diverse skills and readiness levels, teachers feel challenged (Morgan, 2014). McMaster and Fuchs (2016) found that teachers struggle to implement DI in the classroom because they are not receiving enough training during pre-service and in-service training. Claessens et al. (2014) suggested that when teachers have difficulties implementing DI, students may suffer the consequences of poorly implemented lessons. There is a need to provide better instructional designs for teachers, so students are motivated to learn, and teachers are confident in their abilities to implement diversified lessons (Dixon et al., 2014). Smit and Humpert (2012) indicated

that there is a concern among school administrators about teachers struggling to choose appropriate instructional strategies to implement DI in classrooms. Taylor (2015) expressed that one way to help teachers who have difficulties implementing DI is to have the teachers revisit the principles and components of DI.

Purpose of the Study

The purpose of this study was to investigate the local elementary reading teachers' perceptions about using DI in the classroom and to explore what teachers believe was needed to improve the effectiveness of their practice. The research paradigm is a social constructivist view of a basic qualitative study (Creswell & Creswell, 2017). Selecting a social constructivist view allowed me to seek understanding of the world in which elementary reading teachers work and learn to construct knowledge of their world through the information they shared (see Creswell & Creswell, 2017). The intent was to investigate K-5 reading teachers' perceptions about the use of DI in classrooms. As the researcher, I set aside personal beliefs and biases to gain an understanding of the participants' perceptions (see Creswell & Creswell, 2017).

Research Questions

The research questions that were explored included:

RQ1: What are elementary reading teachers' perceptions about using DI in the classroom?

RQ2: What are elementary reading teachers' perceptions about DI skills needed to improve their instructional effectiveness in the classroom?

Conceptual Framework

Creswell (2013) declared that the key factors and concepts found in narrative or graphic form are the main issues considered in qualitative studies. The participants in this study were teachers who teach reading comprehension to elementary students. In qualitative research, the researcher is the primary instrument for data collection (Merriam & Tisdell, 2016). Through questioning, understanding "how people might acquire knowledge and learn" is a goal of constructivism (Bada, 2015, p. 66). I gathered data through interviews and used the data to investigate reading teachers' perceptions about differentiation in the classroom setting. Vygotsky's (1978) social constructivism and Tomlinson's (2002) DI model served as the conceptual framework for this study. Vygotsky established a relationship between learning and social development (Vygotsky, 1978). Vygotsky's social constructivism theory emphasized the teacher and the students in a classroom, where variables such as social interaction, culture, and language affect the process of learning (Vygotsky, 2012). The zone of proximal development is one of the main concepts of sociocultural theory, founded on instructional practice where students who are cognitively ready are able to develop fully through guided interaction with their teachers (Vygotsky, 1978; Vygotsky, 2012). Social constructivism was relevant to this study because teachers accepted that their students bring social and cultural learning from their prior educational experiences to their new educational setting. However, teachers need to focus on guiding the students' learning growth. The social constructivist view supported the importance of teacher skills in guiding student growth in constructing new

knowledge. Teachers act as facilitators to create collaborative learning environments that directly expose students to the material being studied to meet individual learning needs.

The four tenets of Tomlinson's (2002) model that provide practical application for creating differentiated lessons include content, process, product, and environment. Content refers to the concepts students' will learn or how the students will gain access to the knowledge and skills (Tomlinson, 2002). Process refers to providing students with activities that engage them in their preferred learning styles (Tomlinson, 2002). Product refers to opportunities for students to demonstrate their learning and newly acquired knowledge. Products are often identified as tests, projects, or demonstrations of skill (Tomlinson, 2002). A learning environment refers to the optimal conditions within the classroom to create a space that is comfortable for students to work and to learn (Tomlinson, 2002).

Tomlinson (2002) asserted that DI refers to the multiple teaching approaches used to provide appropriate instructional methods to address a diverse group of students. The goal of each DI lesson is to ensure all students participate and learn the established grade level content (Tomlinson, 2014). To meet the needs of the students, teachers must respond to varying abilities among learners in the classroom. Tomlinson (2001a) emphasized that for a teacher to teach students individually or in a small group, the best learning outcomes result from teachers using DI strategies.

DI shifts the accountability for learning from the teacher to the student with the teacher performing the role of the facilitator to guide the learning. The emphasis shifts from the teacher and instruction to the students and learning. This paradigm shift defines

new roles for teaching and learning. The process of social interactions in the classroom, as well as the application of DI experiences to meet students' needs, were of importance in this research for me to understand teachers' challenges with implementing DI. I revisit the connection between teacher skills, student learning, and the social environment that forms the basis of the conceptual framework with a more thorough description in Chapter 2.

Nature of the Study

Creswell (2013) identified three research approaches: qualitative, quantitative, and mixed methods. While each has unique characteristics, Creswell proposed that they are on a continuum with qualitative and quantitative approaches on either end and the mixed methods approach in the middle. In a quantitative study, the researcher "tries to measure variables in some way" (Leedy & Ormrod, 2010, p. 94). This type of design is used to study variables that can be measured and statistically analyzed (Creswell, 2013). A quantitative researcher's purpose is to "seek explanations and predictions that will generalize to other persons and places" (Leedy & Ormrod, 2010, p. 95). Quantitative research primarily generates numerical data using mathematical methods, whereas qualitative research is exploratory and generates written data that focuses on the meaning participants ascribe to their human or social problems (Merriam & Tisdell, 2016). Qualitative research occurs primarily in a natural setting and is used to gain an understanding or to interpret phenomena in terms of individuals' accounts and the meanings people bring to them (Aspers & Corte, 2019).

The purpose of this study was to investigate the local elementary reading teachers' perceptions about using DI in the classroom and to explore what teachers believe was needed to improve the effectiveness of their practice. A basic qualitative design was the best choice to accomplish this. In basic qualitative research, the goal is to obtain a detailed understanding of a problem or phenomenon (Creswell, 2012). Through this study, I hoped to gain a detailed understanding of the perceptions and experiences about the struggles of elementary reading teachers who are trying to implement DI strategies in mixed-ability classrooms. Merriam and Tisdell (2016) identified four key characteristics of basic qualitative studies: (a) they are focused on understanding, (b) the researcher is the primary instrument, (c) they use an inductive process, and (d) they involve gathering rich descriptions. This study incorporated all four characteristics.

In this study, I investigated reading teachers' perceptions about using DI in the classroom and explored what teachers believed was needed to improve the effectiveness of their practice. A basic qualitative design is described as qualitative "without declaring it a particular type of qualitative study" (Merriam & Tisdell, 2016, p. 23). As is found in qualitative research, this study design focused on understanding how participants interpret and make sense of their experiences (see Merriam & Tisdell, 2016). However, in basic qualitative research, discovering and interpreting participants' meanings is the primary goal. This is what makes this design unique from other qualitative designs (Merriam & Tisdell, 2016). In this study, I wanted to understand the challenges elementary reading teachers had with implementing DI instructional approaches as well as what teachers believed was needed to improve the effectiveness of their practice.

I used purposeful sampling to select the participants. The criteria for participant selection were as follows: (a) all participants had to be employed at the local elementary school as reading teachers, and (b) all participants were required to have at least 3 years of experience as a reading teacher. These criteria ensured that the reading teachers had a variety of experiences with implementing DI at the study site to provide rich and thick responses.

The data collection process involved one-on-one, semistructured interviews. The interviews consisted of open-ended questions that elicited participants' perceptions and views. I audio recorded the interviews and took reflective notes. The recorded interviews were transcribed by me following each interview. I analyzed data for emerging themes.

Definitions

Differentiated instruction: A strategy that includes a designed lesson plan for the teacher to continue adjusting as it guides the teaching while addressing the students' learning styles, grouping students by shared interest, needs of the students, readiness, and assessing students' learning using formative assessment (Tomlinson, 2002).

Social constructivist learning: Learning based on Vygotsky's social constructivist theory that emphasizes learning as a cultural process that fosters collaboration and knowledge construction through social interactions among peers in their learning environment (Schiermeyer, 2010).

Scaffolding: A variety of instructional techniques used to move students progressively towards a stronger method of learning educational independence (Meyer, 1993).

Struggling reader: For the purpose of this research, any student who has trouble in learning to read as demonstrated by below grade level proficiency on reading assessments (Wanzek, Wexler, Vaughn, & Ciullo, 2010).

Assumptions

This basic qualitative study used strategies often used by researchers to explore in-depth an activity, event, program, or one or more individuals (Creswell, 2013). According to Kirkwood and Price (2013), assumptions are facts presumed to be true. Failing to recognize assumptions can lead to inaccurate results (Simon & Goes, 2013; Wargo, 2015). For this study, I assumed that all participants would share their perceptions about DI and their struggles with implementing it openly and honestly. Participants were not influenced to provide specific data used to answer the research questions. Confidentiality was assured, and the participants were volunteers who could withdraw from the study at any time without consequences. Another assumption was that participants would have a sincere interest in participating in this study and did not have any other motives. This assumption was necessary because I was a teacher at the study site. Nevertheless, I did not hold a leadership role or have any authoritative responsibilities over any of the teachers. No coercion occurred in selecting participants, and no compensation was provided.

Scope and Delimitations

The scope of this study consisted of investigating the challenges teachers faced with implementing DI at one of the lowest performing elementary schools in the state. Teachers at the study site experienced difficulty implementing DI in their mixed-ability

classrooms. In response to the low reading achievement statewide, the state board of education required all school districts to implement DI. The population for this study consisted of elementary reading teachers at a single site, even though all teachers and resource specialists in the state were expected to implement DI. In keeping with the purpose of the study to investigate reading teachers' perceptions about using DI, it was not feasible to interview all available participants. I selected participants through purposeful sampling. Twelve teachers met the eligibility criteria. However, 10 teachers consented to participate. Even though the 10 participants had a wide range of teaching experience and experience teaching reading, the interview responses of the participants may not provide an accurate representation of the responses of all the staff at the study site or the school district leaders (see Creswell & Creswell, 2017; Yin, 2016).

The focus of this study supported the district's view that reading proficiency prepares students for lifelong success (TDOE, 2018). For several years, academic achievement statewide had been declining (TDOE, 2018). In 2015-2016, on the Tennessee Comprehensive Assessment Program (TCAP) assessment, only 33.9% of elementary students were proficient in reading (TDOE, 2016b). TNReady assessments were developed in 2017 to accurately reflect student achievement and growth (TDOE, 2017). Since 2017-2018 was the first year of TNReady assessments, achievement results for reading cannot be compared to prior TCAP scores (TDOE, 2018). However, even with a 1.8% increase in reading proficiency on the TNReady reading assessment, the new baseline for elementary students still indicated low scores in grade-level performance. In 2017-2018, only 35.7% of elementary students were proficient in reading (TDOE, 2018).

Due to the low reading proficiency statewide, improving literacy was the district's central priority (TDOE, 2017). According to district leaders, reading teachers have the most important job as they are the primary drivers of students' achievement (TDOE, 2017). For this study, I intended to build on the district's goal to improve teacher professional competence by exploring the aspects of DI. The findings identified the teachers' perceptions about DI and what resources might be needed to help them improve their instructional practice. The findings applied to a single site; however, the transferability of the findings increased because I included rich descriptions and specific details about the context of the participants' responses. Other schools struggling to implement DI may benefit from exploring how teachers at the local elementary school perceived the challenges of implementing the district-wide mandated literacy reform effort.

Delimiting factors for this study included the choice of the research problem, population, and the conceptual framework. According to Bloomberg and Volpe (2018) and Wargo (2015), delimitations are within my control and restrict the questions that my study can answer. The research problem was beneficial in understanding the successes and challenges teachers at the local site might be experiencing with implementing the DI method. Several elementary and secondary schools were identified as low performing schools due to students' low reading achievement. My study focused on investigating the implementation of DI only at the elementary level to align with the district goal to improve the reading skills of students in Grades K-3. Lastly, DI grounded in constructivism has implications for teaching and learning. A fundamental component of

constructivism is the social interaction that is prevalent in differentiated classrooms to facilitate the learning process.

Limitations

This study had several limitations to be considered. Simon and Goes (2013) mentioned that limitations are circumstances that are not able to be controlled by the researcher and that may influence the credibility of the study. The accuracy of the data was dependent solely on the honesty of the teachers taking part in the study. I focused on transferability and dependability of the data. To ensure the findings can be applied to similar settings and populations, I provided rich descriptions of the study site, the participants, and the perceptions of participants. To determine dependability, I sought consistency in the data analysis process and the process of identifying themes and patterns from the collected data.

As the researcher and principal investigator, I was the main instrument for the qualitative interviews. Awareness of researcher bias was required during the data collection and data analysis (Glesne, 2011; Pezalla, Pettigrew, & Miller-Day, 2012). Nonverbal gestures such as facial expressions and body language, as well as questioning techniques, can influence researcher bias. I used an interview protocol consisting of open-ended questions to minimize the influences of bias. I conducted the interviews in the same manner with each participant, although two participants were interviewed by phone. It is suggested in literature that phone and face-to-face interviews could possibly generate different results. To ensure clarity, the phone call participants were provided with copies of the questions in advance. I maintained a neutral tone when asking the questions during

the phone and face-to-face interviews. To prevent influencing participants' responses, I made certain not to imply that the interview questions required a specific answer or to acknowledge if the participants were providing a right or wrong answer.

Significance

Declining scores on the state assessments continue to be a concern for schools in Tennessee (TDOE, 2018). The problem that prompted this study was that elementary reading teachers experienced difficulty when implementing DI strategies in their mixed-ability classrooms (Heacox, 2017). Charged with the responsibility of improving student reading achievement, the local elementary school responded by adopting curriculum standards with the goal of increasing the TCAP scores for all students. Best practices demand that educators understand how to teach all students to provide them with the necessary knowledge and skills to be college and career ready (Alliance for Excellent Education, 2010). Teachers need to know what methods of instruction work and are effective for teaching students (Ober, 2016). This study may advance teachers' knowledge by providing insight into the experiences that hindered and facilitated the participants implementation of DI with fidelity. The results of this study may increase awareness of DI best practices as teachers reflect on what the participants believe was needed to improve DI skills to work appropriately with diverse groups of students. The school district may benefit from the positive social change that may occur as a result of improved teaching and learning. By exploring teachers' perceptions about DI, teachers and administrators may experience positive social change through an improved system of implementing differentiation and student outcomes on standardized assessments.

Summary

The problem that prompted this study was that elementary reading teachers experienced difficulty implementing DI strategies in their mixed-ability classrooms. According to Hall (2002), DI still lacks empirical validation. The author asserted, "There is an acknowledged and decided gap in the literature in this area [DI] and future research is warranted" (p. 4). Similar to Hall (2002), Ober (2016) maintained that even though DI has become a preferred method for teaching, "empirical research shows only a few instances where DI has had any measurable effect" on improving student achievement (p. 1). Ober (2016) acknowledged that implementing DI is time consuming. Ober further contended that a gap exists in the research literature about DI strategies that when understood, could help teachers implement DI more effectively. I investigated the local elementary reading teachers' perceptions about using DI in the classroom and explored what teachers believed was needed to improve the effectiveness of their practice.

Basic qualitative research is a systematic inquiry concerned with making meaning of social situations or experiences (Merriam & Grenier, 2019). I chose a basic qualitative design for the study as the best way to explore teachers' perceptions about DI. I interviewed participant volunteers selected through a purposeful sampling approach to determine their views of DI based on day-to-day interactions with students in which they used diverse methods of teaching to grow their students' knowledge. The data collection process involved conducting one-on-one, semistructured interviews. Interviews provide researchers with detailed qualitative data for understanding participants' experiences and

the meaning they make of those experiences (Rubin & Rubin, 2012). The interviews consisted of open-ended questions to elicited participants' perceptions and views.

In Chapter 2, I explore the current literature for topics associated with DI strategies and best practices that can be used with high-risk, low performing students in diverse classrooms. I also describe the search strategy used to conduct the literature review.

Chapter 2: Literature Review

Tomlinson and Imbeau (2012) referred to today's classrooms as a "jigsaw puzzle of learners" (p. 18). All students can benefit from opportunities to learn and interact with people whose backgrounds and perspectives differ from their own. The problem I addressed in this study was that elementary reading teachers experienced difficulty implementing DI strategies in their mixed-ability classrooms. The purpose of this study was to investigate the local elementary reading teachers' perceptions about using DI in the classroom and to explore what they believed was needed to improve the effectiveness of their practice. This chapter is a review of the existing literature on DI and provides a grounding for the current research. First, I describe the search strategy used to conduct this review of the literature. Next, I present the conceptual framework grounding this study, followed by a review of the literature on best practices for reading instruction including DI. The chapter concludes with a discussion of strategies for implementing DI and a chapter summary.

Some educators and researchers refer to DI as an instructional approach (Smit & Humpert, 2012), teaching strategy (Jenkins, Schiller, Blackorby, Kalb-Thayler, & Tilly, 2013), framework (Valiandes, 2015), pedagogical practice (Santamaria, 2009), philosophy (Dixon et al., 2014), and as a process to teaching (Hall, 2002) just to name a few. Tomlinson (2014) declared that DI involves planning and delivering instruction to increase students' abilities to learn. This definition is somewhat broad. DI is associated with planning for and teaching inclusive classrooms to support diverse learners. Historically, DI dates to the 1600s when students were educated in a one-room

schoolhouse. Implementation occurred in a classroom where one teacher instructed all students regardless of their grade or ability level (Gundlach, 2012). DI came to the forefront with the start of inclusive education in the 1990s (Westwood, 2016). Inclusive education started as a means to meet the special needs and abilities of exceptional students. Inclusion forms the overarching philosophy of DI. In a differentiated classroom, the teacher plans for the needs of all students by creating a learning environment that allows students to succeed individually (Piquette, 2012).

In the state of Tennessee, the TCAP is a set of state assessments given to measure student academic skills and progress. The TCAP results are categorized as below basic, basic, proficient, or advanced (TDOE, 2018). Statewide data from the 2013-14 school year showed that 80% of elementary students in Grades 3-5 scored at the basic and below basic proficiency levels in reading, with only 20% achieving at the proficient and advanced levels (TDOE, 2015). In 2015-2016, the percentage of students who scored basic and below basic in reading improved, yet overall, the reading scores remained below the state mandated passing rate (TDOE, 2016a). Nationally, over the years, Tennessee has consistently ranked among the bottom third of states in academic performance.

Literature Search Strategy

I conducted a search for literature related to DI and other instructional strategies using the Walden University Library and the Google Scholar website. Databases accessed through the Walden University Library included the following: Education Research Complete, EBSCO, Education Resources Information Center (ERIC), SAGE and

ProQuest. The initial search was restricted to peer-reviewed literature published in 2014 and later, along with other relevant resources. Because DI became prominent during the inclusive schools movement, much of what has been written about the topic was created in the 1990s. Therefore, subsequent searches included sources published earlier. Keywords used for the initial search included: *Tomlinson differentiation, differentiated instruction, tiered instruction, scaffolding, Socratic methods, whole grouping, project based learning,* and *cooperative learning*. Additional searches included *individual learning, differentiated instruction teacher professional development, reading differentiated instruction teaching practices,* and other topics. Resources used to explore the topic of differentiation included scholarly journals, books, dissertations, and other print and electronic material.

Conceptual Framework

This study is grounded in Tomlinson's (2002) DI model. The conceptual framework provides the important aspects of the topic used to guide the data collection, categorization of themes, data analysis, and discussion of the findings of the study (Merriam & Tisdell, 2016). I also used the conceptual framework to develop the alignment of the research questions with the basic qualitative research design and methods of the study.

Tomlinson's DI model supported by constructivism served as the conceptual framework for the study. The reason for selecting a constructivist view is that it allowed me to seek understanding of how the study participants work and learn to construct knowledge of DI through the information they shared. In constructivism, teachers and students make meaning of their learning from previous experiences. Teacher participants

were clear about their responsibilities of deciding on the methods of differentiation to be implemented by considering the needs of the students. The starting point to learning is different for each student, and most teachers performed preassessments to understand the readiness levels of each student. To implement DI and to respond to student learning needs, teachers stated a definite need for proper training to provide learning opportunities that are both social and collaborative to meet students' needs. Because learning is constructed, all learners build on the foundation of the previous learning. DI, as supported by constructivism, is based on student's previous knowledge to create lessons that produce success for both student and teacher.

Vygotsky's (1978) social constructivist theory highlighted the nexus between the teacher and student roles. Teachers acknowledged their needs for greater understanding of DI; however, they understood the importance of familiarizing themselves with each students' prior knowledge and experiences. By offering teachers the help with DI strategies, they may be prepared to deliver the quality lessons that they seek. Teachers at the local school experienced difficulty performing as facilitators of learning, which hindered the learning process.

The four components of Tomlinson's model—content, process, product, and environment—provided the anchor for practical application of DI. The implementation of DI in the classroom setting encouraged teachers to differentiate one or more of the four components. Implementing DI effectively requires that students be given choice for how to demonstrate what they have learned and the option to work collaboratively or independently, leading to increased student engagement. Draeger and Wilson (2016) and

Finley (2017) similarly argued that providing students choice can be motivating and empowering.

Willis and Mann (2000) described differentiation as a teaching philosophy based on the idea that teachers adapt their instruction to match students' differences while Heacox (2017) defined differentiation as modifying the content in response to individual students' needs, learning styles, or interests. Birnie (2015) defined differentiation as a process-oriented approach most suitable to classrooms in which students have a wide range of ability levels. In Tomlinson's (2017) conceptualization of DI, differentiation is not individual learning but rather a proactive collaborative attempt to engage and challenge a wide range of learners. Effective differentiation requires teachers to alter the nature of assignments to match students' individual skills. Additionally, Gibson (2011) viewed differentiation as a means to teach differently. Teachers change how teaching and learning happen to enhance student performance, particularly for improving reading achievement. Gibson's definition of DI is closely related to the concept of constructivism.

In constructivism, students should have the opportunity to make meaning of their learning. Vygotsky's theory on constructivism lies in the social interactional relationship between teacher and student (Lunsford, 2017; Stubeck, 2015; Ultanir, 2012). Vygotsky (1978) wrote, "learning and development are interrelated from the child's very first day of life" (p. 82). For teachers to improve the effectiveness of their implementation of a learner-centered teaching approach, teachers identified a clear and immediate need for well-organized training to develop understanding about constructing strategies that meet student learning needs.

Researchers define *constructivism* as a theory based on the idea that students actively create their own knowledge (Bada, 2015). Social constructivism is a branch of Vygotsky's constructivist thought, which espouses that knowledge is individually constructed through a person's experiences (Vygotsky, 1978). Vygotsky argued that students have the potential to learn, but that potential cannot be reached unless they are assisted by someone who uses specific strategies to meet their learning needs (Schreiber & Valle, 2013). According to Vygotsky's social constructivist theory, learning is essentially a social process and occurs through social interactions with others (Bada, 2015). Bruner (1984), supporting Vygotsky's constructivist views, explained that learning is, most often, "figuring out how to use what you already know in order to go beyond what you currently think" (p. 183). Schreiber and Valle (2013) explained that learning is a social and collaborative activity where people create meaning through their interactions with one another (p. 396). This notion of social interaction is the basis for Vygotsky's social development theory, which is the foundation of constructivism. When students work collaboratively within the classroom setting, it has both academic and social benefits. According to Tomlinson and Imbeau (2010), instruction in differentiated classrooms provides students with specific, personalized learning experiences that are both social and collaborative. Stubeck (2015) believed that individuals construct a link to new knowledge based on their prior knowledge. DI, as related to constructivism, allows teachers the opportunity to plan instruction based on students' individual needs. As indicated in the literature, the concepts of content, process, product, and environment provide an anchor for the practical application of DI.

Teacher participants stressed that their classrooms were populated with students who have diverse learning needs. These varied learning differences are central to the data provided by teachers. Teachers stated that they want to be able to assess what students need, to provide students with appropriate learning strategies, to pace student learning, and to support student efforts. Teachers acknowledged that, at times, they presented successful DI lessons, and this created greater student interest in reading (Santangelo & Tomlinson, 2012).

Chien (2012) concluded that teachers struggle to differentiate lessons for varied student learning levels and that they need to provide leveled instructional materials based on concepts and principles. To differentiate the process, teachers engage students in activities and materials to develop their knowledge of the content (Chien, 2012). Student readiness and interests guides the choices of instructional activities and materials (Tomlinson & Imbeau, 2010). The product involves students applying what they have learned. When teachers differentiate the product, they provide students with choices for how to demonstrate what they have learned (Chien, 2012).

While researchers such as Faber, Glas, and Visscher (2018), Gibson (2011), Goddard, Goddard, and Kim (2015), and Letwinsky (2017) described through literature what DI looks like, Tomlinson (2014) went further to explain the key components of the classroom system of DI: (a) an effective learning environment, (b) a focused curriculum, (c) varied assessments, and (d) quality instruction. The teacher's experiences and beliefs influence and shape a learning environment where students can ask questions and take

risks. The learning environment encompasses not only the physical space, but also the routines and procedures used to guide the learning.

Data collected from teachers underlined their need to build students' knowledge, understanding, and skills by becoming more adept at differentiating for varied instructional needs. While teachers recognized their use of assessments to determine students' levels of understanding, they emphasized the problems of working with multiple learning levels, insufficient training, and lack of resources to effectively implement differentiated lessons for all students. All the DI components must be developed within the context of the classroom to increase the learning opportunities for all students. Effective teaching with DI strategies to meet the learning needs within mixed-ability classrooms will require increased professional development opportunities

Literature Review Related to Key Variables and Concepts

In this literature review, I explore research regarding the efficacy of multiple approaches to DI as techniques for improving students' reading skills. Best practices for reading instruction including DI, scaffolding, cooperative learning, project-based learning, the Socratic method, tiered instruction, and whole grouping are examined in detail.

Differentiated Instruction

Among educators, Tomlinson is well-known as an expert in DI (University of Virginia, 2017). Tomlinson has published extensively on the topic. DI is a technique for delivering and planning educational lessons to customize each student's learning experience (Schmitt & Goebel, 2015). Brighton et al. (2015) stated that DI is a teaching

approach in which teachers adapt instruction to students' differences. By using this approach, teachers can modify their instruction to meet students' varying readiness levels, learning preferences, and interests. To effectively implement DI to meet the students' needs, teachers must have an in-depth knowledge of the curriculum and understanding of the key questions of instruction (Callahan et al., 2015).

When teachers employ a DI approach, their lessons can help support diverse students' interest and learning styles (Borich, 2016) and enable them to learn at their ability (Tompkins, Campbell, Green, & Smith, 2014). According to Moore, Gillett, and Steele (2014), DI is not a successful method for improving learning for all students. Student success is dependent on teachers' abilities to develop learning environments that allow every child to access the necessary educational supports (Graves, 2016; Moore et al., 2014). According to Kane (2017), teachers can help students to develop the skills they need to efficiently gather information and support student levels of preparedness. Moreover, DI also enables teachers to address gaps in students' prior knowledge (Jacobs, Burns, & Yendol-Hoppey, 2015).

Kane (2017) suggested the following strategies as the most effective for implementing DI in the classroom: established learning agendas, learning contracts, centers, tiered instruction, complex instruction, and point-of-entry assignments. Other activities that researchers have suggested to support DI include reading a particular passage and answering questions that are grounded within the text (Heacox, 2017), matching the vocabulary words to definitions, relating a real-life situation to a fictional text, and identifying fact versus fiction (Stronge, 2018). Also, having students state the

author's perspective and the purpose of a text and then summarize the text is an effective DI strategy (Heacox, 2017).

Taylor (2015) recommended that teachers' first task at the beginning of each school year should be to review the students' profiles and identify students' learning strengths and weaknesses. Using the leaning profile information, teachers can then incorporate DI strategies into their lesson plans (Taylor, 2015). Furthermore, teachers can employ DI in their classroom through instructional content, student learning processes, product demonstrations of student learning, and by fostering appropriate learning environments to support multiple activities (Tomlinson, 2016). The following strategies for DI implementation will be explored in detail: (a) working groups, (b) differentiating by learning style, (c) use of Bloom's Taxonomy, and (d) the Know, Understand, Do (KUD) method. In addition, several qualitative studies on the effectiveness of DI are discussed.

Working groups. One method for implementing DI within the classroom is to pair students with similar interests into the same working group (Olson, 2017). Crowe, Rivers, and Bertoli (2017) stated that teachers may develop learning stations based on student interests and commonalities. Tomlinson (2016) offered similar recommendations, that teachers who practice DI may design groups centered on students' learning styles, shared topics, interest, or abilities. By employing formative assessment to continually monitor students' performance, teachers can modify their instructional plans accordingly (Tomlinson, 2016). Formative assessments enable teachers to identify the learning styles of their students in order to group them appropriately.

Learning styles. The learning styles model is based on the concept that individuals differ in the way they process and respond to information. Similar to DI, instruction based on learning styles must be matched to students' learning preferences and needs (Landrum & McDuffie, 2010). One view of learning styles is the Visual-Auditory-Kinesthetic (VAK) model that is based on three of the five basic sensory receivers: visual (see), auditory (hear), and kinesthetic (tactile/experience). By identifying students' preferred learning styles, teachers can implement best practice strategies that allow students to access instruction in the manner they are comfortable (Willingham, Hughes, & Dobolyi, 2015). According to Shah, Ahmed, Shenoy, and Natarajan (2013), visual learners think in images and rely on visual cues to process new information. Students who are visual learners benefit when teachers use diagrams, charts, pictures, illustrated textbooks (Bobek & Tversky, 2016), and interactive whiteboards (Cox, 2019) to present the lessons. In contrast to visual learners, auditory learners tend to benefit the most from traditional teaching techniques (Carbo, Dunn, & Dunn, 1986). Many teachers employ a didactic teaching approach using direct instruction to present content through a lecture-centered format. Auditory learners typically learn best when directions are read aloud, engaging in discussions, or reading text aloud. Grisham-Brown, Hemmeter, and Pretti-Frontczak (2017) stated that teachers can support auditory learners by recording their notes. Auditory learners are often among the more independent students within a classroom setting (Smith & Renzulli, 1984). For example, auditory learners can benefit from lessons that require active listening using recorded lessons delivered through

headsets. As such, students who work well with auditory cues often require less one-on-one time with the teacher (Smith & Renzulli, 1984).

Lastly, kinesthetic learners are most successful when engaged in activities to explore the world around them. Harwood and Marsh (2018) stated that kinesthetic learning is a style that allows students to physically interact with the elements of the lesson. Kinesthetic learners acquire information best when participating in hands-on learning activities such as science labs, dramatic presentations, field trips, or other physical activities (Carbo et al., 1986). In addition, kinesthetic learners often benefit from working in groups during cooperative learning activities and may engage in tutoring other students while the teacher facilitates the lesson (Harwood & Marsh, 2018). Due to the growing interest in active learning, education has shifted toward a more constructivist hands-on and collaborative classroom approach (Blaz, 2018; Smallhorn, 2017). Hands-on teaching techniques address diverse learning needs, not just those of kinesthetic learners but for all learners (Smallhorn, 2017).

Current research about the effectiveness of learning styles continues to be controversial (Landrum & McDuffie, 2010). According to Cuevas (2015), there is a lack of empirical evidence to support the notion that learning styles-based instruction affects student achievement. Similar to Cuevas (2015), Pham (2012) argued that learning styles instruction has not been scientifically or psychologically proven and therefore lacks credibility as a viable instructional approach. The idea that individuals learn things differently advances the argument for the use of the learning styles model as an addition to other instructional methods.

Bloom's Taxonomy. Calderon and Slakk (2018) have suggested that teachers differentiate their instruction by using the content of the lesson. To accomplish this process, Price and Nelson (2018) advised applying the Bloom's taxonomy model (Anderson et al., 2001; Bloom, 1956) to aid in developing differentiated learning objectives to guide lesson plans. Bloom's taxonomy classifies thinking according to six cognitive levels: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956). The levels are ordered from simple to complex. Each level must be mastered before moving to the next higher level (Bloom, 1956). The lowest level of Bloom's taxonomy simply requires students to memorize and recall previously learned information, whereas at the highest level students would be required to make a judgment about the information. Teachers can use Bloom's model to develop objectives that challenge students' higher-order thinking skills and to guide students with lower levels of cognition to higher-order thinking by creating lessons that transition from the lowest to the highest level of questioning (Calderon & Slakk, 2018). A revision of Bloom's taxonomy was published in 2001 to describe the cognitive processes that thinkers encounter and work with knowledge (Armstrong, 2016). The revised categories consist of remembering, understanding, applying, analyzing, evaluating, and creating (Anderson et al., 2001). Closed-ended questions generated from the categories of remembering, understanding, and applying frequently elicit lower-level responses, whereas open-ended questions in the analyzing, evaluating, and creating categories elicit higher-level responses (Neal, 2012). While it is appropriate to ask questions to address all cognitive

levels, higher-order questioning usually stimulates critical thinking (Calderon & Slakk, 2018).

Using Bloom's taxonomy during lesson planning can help teachers to ensure they are teaching higher-order thinking skills. Teachers typically employ Bloom's taxonomy to aid them in developing lessons that begin with lower-order thinking skill challenges that require teachers to design questions that encourage students to draw upon remembering and understanding skills (Suskie, 2018). Marchionini (2006) suggested that teachers should push students beyond recall by asking them to apply and analyze the content of the lesson. Offering a similar recommendation, Calderon and Slakk (2018) advised that to challenge students who can demonstrate mastery of the first four levels of the revised Bloom's taxonomy, have them complete higher-order thinking activities, such as evaluating a text or creating a concept map for the text or lesson. Understanding the categorization of Bloom's cognitive levels, and best practice strategies may help teachers to formulate a wider range of questions that not only stimulate recall but also build students' critical thinking and lead to deeper insights (Neal, 2012).

The KUD method. Tomlinson (2002) suggested that in order to help the classroom teacher stay focused when using DI, it is helpful to use the Know, Understand, Do (KUD) method. The KUD method helps the teacher deliver content, process, and product to students by deciding what the student is to know, understand, and do depending on the topic of the lesson. The content is the information that is being delivered in the lesson. The process involves how the students learn information that is given to them (Armstrong, 2016). Following a DI model, the teacher must provide the

students with multiple ways for them to understand the lesson and make sense of the ideas, information, and skills being taught. The product is the outcome of the learning process when the students can present a project, brochure, or skit, among other things, reflecting their understanding of the lesson. For the KUD method to be effective, teachers must know exactly what they want the students to learn so that they can identify it in the product (Hunter-Doniger, 2018).

For example, the KUD method could be used in a math class where students are learning multiplication facts. To learn multiplication, students also need to know vocabulary, facts, definitions, and information. To understand multiplication facts, students need to understand the principles and generalizations of multiplication as another way to add numbers. To multiply numbers, students must have planning skills, thinking skills, and essential truths to solve problems (Tomlinson, 2014). The product would be the students' abilities to present their multiplication facts correctly.

Benefits of Differentiated Instruction

Recognized internationally as a best practice approach (Subban, 2006), DI accommodates individual learning needs ensuring access to the curriculum for all students. The research literature indicated that DI can be effective for improving the academic performance of low and high ability students (Faber et al., 2018; Gibson, 2011). Bradfield (2012) studied the effect of DI on the reading achievement of struggling readers in the first grade in a low performing school in Minnesota. The results showed that the use of DI best practices improved students' reading skills. Firmender, Reis, and Sweeny (2013) conducted a study in five elementary schools with diverse student

populations. Reis, McCoach, Little, Muller, and Kaniskan (2011) also studied the schoolwide implementation of DI in five public elementary schools. The results of both studies indicated DI strategies to be successful in improving students' reading comprehension and overall reading performance.

Various qualitative studies have explored the implementation of DI in the classroom setting and associated challenges that teachers have experienced. A case study on DI implementation conducted by Varajic (2017) highlighted the need for professional development in Common Core mathematics standards, for DI implementation strategies in mathematics, and for additional planning time to implement activities and lessons for students. Teachers in the study felt that there had been an improvement in students' understanding of mathematical standards and concepts after the implementation of DI. However, teachers expressed concern about needing additional planning time for adequately preparing DI implementation at all grade levels. In addition, Varajic proposed and developed a program designed to give teachers more time to collaborate with colleagues and plan lessons together. Although Varajic's study examined a different subject matter, the finding regarding the barriers to implementation of DI in the classroom is of relevance to the present study.

Strogilos, Tragoulia, Avramidis, Voulagka, and Papanikolaou (2018) investigated the implementation of DI in more than 30 elementary classrooms. The authors explored teachers' understanding of DI principles and identified techniques for implementation in the primary grades. Dijkstra et al. (2017) focused on the implementation process of DI in kindergarten classrooms. Strogilos et al. (2018) and Dijkstra et al. (2017) found that

students were more successful in DI classrooms that taught in ways that were responsive to students' readiness levels and varied needs.

Lunsford (2017) also conducted a case study focused on middle-school social studies teachers' attitudes towards implementing DI in classrooms with mixed skill levels. Overall, the participants felt that implementing DI was difficult to accomplish at times, but they believed that it was beneficial to students. However, participants felt that they lacked the appropriate materials, resources, training, and time to adequately implement DI. Furthermore, many teachers expressed that they did not understand how to properly implement DI in their classroom (Lunsford, 2017). The challenges to DI implementation are insightful despite Lunsford's focus on social studies instruction.

The approach of DI enables teachers to support diverse students by catering instruction to their various needs. Existing qualitative research has suggested that DI may be a beneficial technique for improving students' performance but has identified several barriers to teachers' successful implementation of the technique, including a lack of adequate planning time, little or no training in DI, and insufficient DI materials and resources (Lunsford, 2017; Varajic, 2017). Other techniques for reading instruction are explored in the following sections.

Scaffolding

According to Tomlinson (2014), scaffolding is a critical teaching technique that should be applied regularly in the classroom to ensure maximum student achievement. *Scaffolding* is an approach wherein students are given adequate support while learning something new until they eventually proceed to that knowledge independently

(Tomlinson, 2001a). Scaffolding strategies require teachers to support students for a time and then gradually release them into independent learning situations. Commonly, teachers employ scaffolding to bridge learning gaps to improve students' performance and achievement (Temple, Ogle, Crawford, & Freppon, 2018). For scaffolding to be effective, it is vital for teachers to show students the outcome of a finished product before asking them to replicate it (Blaz, 2018). Such demonstrations allow students to understand exactly what they are expected to do. Different scaffolding strategies include: (a) modeling, (b) drawing on prior knowledge, (c) preteaching vocabulary, (d) using graphic organizers, (e) using a think-pair-share approach, and (f) the buddy system.

Modeling. The type of demonstration described by Blaz (2018) and Blackburn (2018) is closely related to modeling, which is a strategy that teachers use to support scaffolding that enables the learner to better understand the assigned task (Pesco & Gagné, 2017). While teaching through demonstration might involve more direct telling or instructing, modeling is a less hands-on strategy. In the modeling approach, the teacher performs the exercise assigned to the students before asking them to conduct it themselves. Following the teacher's modeling demonstration, students are gradually released into independent work mode with the teacher monitoring and guiding their work as needed (Pesco & Gagné, 2017).

Drawing on prior knowledge. Another strategy for scaffolding instruction is using prior knowledge (Tomlinson, 2001b). For example, teachers can ask students to share their own experiences when introducing a new lesson or text (Suskie, 2018). Activating prior knowledge allows students to connect and relate real-life situations to a

fictional or nonfictional text, fostering a community of learning that extends beyond the classroom (Smit & Humpert, 2012).

Preteaching vocabulary. Preteaching vocabulary is another scaffolding strategy, that Price and Nelson (2018) have found particularly helpful when working with a difficult text. When preteaching words and their meanings, it is important for teachers to begin with the end in mind (Goh, 2018) and to think about how they want students to master the skill (Kane, 2017). Teachers can use context clues, pictures, discussions, analogies, and figurative meaning to help students gain a deeper understanding of meanings before they introduce the text (Biggers, 2018). This approach is called *front loading* and helps set the learning expectancy when introducing new vocabulary. Using the front loading strategy helps students draw upon their own connections when learning a word which can positively influence their mastery of the vocabulary term itself (Barlow et al., 2018).

Graphic organizers. Another scaffolding approach is the use of visual aids such as graphic organizers (Blachowicz & Fisher, 2013). *Graphic organizers* are a type of visual aid that typically comes in the form of worksheets or a projected graphic that students can complete to help them construct meaning; examples include idea webs, timelines, or charts. Graphic organizers afford teachers the flexibility to differentiate instruction while applying learning standards to foster knowledge in vocabulary (Lin et al., 2015). These visual aids enable teachers to guide and shape students' thinking when approaching something new (Barlow et al., 2018). By engaging with graphic organizers, students can consolidate information and grasp ideas more clearly. For this tool to be

most effective, it is important for teachers to ask questions when introducing the graphic organizer and to allow time for students to ask questions as well (Blackburn, 2018). While graphic organizers are a useful strategy for many students, Biggers (2018) suggested that some students learn better by simply writing out thoughts without the aid of an organizer. It is likely that the effectiveness of this tool is largely dependent on the learning style of the student.

Think-pair-share. For think-pair-share, learners converse with others who can provide a deeper level of knowledge or a different way of understanding a topic. According to L. Jones (2018), think-pair-share is another effective strategy of scaffolding that exposes students to three lesson-processing experiences within one activity. First, the students think about a topic, then they are paired with an individual who is knowledgeable about the topic, and then that individual shares their knowledge about the topic. The think-pair-share strategy encourages the student to take responsibility for their learning while also holding their peers accountable (Temple et al., 2018). Just like many scaffolding strategies, think-pair-share also enables the teacher to play the role of facilitator, walking around the classroom to monitor students' participation and assess their level of learning (L. Jones, 2018).

The buddy system. A recent study by Ray (2017) revealed that when teachers implemented buddy reading, flexible grouping and leveled texts, reciprocal teaching, small grouping instruction, tiered assignments, and graphic organizers, they used differentiation guided reading. Results also indicated that research-based strategies were useful for struggling readers. Another finding was that teachers focused on implementing

DI in reading, independent reading, and reading intervention in students' earlier years of their academics. Teachers also identified a high level of support from the coaches and administrators. In a study by Stewart (2016), teachers implemented the buddy system, another scaffolding strategy to aid struggling readers as part of a DI program. The buddy system involved pairing a struggling student with a higher-performing reading buddy to work on an assignment together. The goal was to strengthen the students' skills as they worked collaboratively.

By employing the scaffolding technique, teachers can bridge the gap between what is challenging and what is doable (Panadero & Järvelä, 2015). Scaffolding involves a multitude of strategies including modeling, using prior knowledge, pre-teaching vocabulary, working with graphic organizers, think-pair-share, and the buddy system that can be used to engage the student into learning and gradually working more independently to master a set of academic skills (Panadero & Järvelä, 2015). Scaffolding techniques lead students to a greater level of independence in the learning process.

Cooperative Learning

Menekse, Stump, Krause, and Chi (2013) described cooperative learning as a successful teaching technique in which teachers group together teams of learners with varying abilities and employ different learning strategies to improve their overall understanding of a subject. Brindley, Walti, and Blaschke (2009) defined cooperative learning as a learning structure that allows heterogeneous groups to work together to learn and achieve mastery of a specified subject. For the cooperative learning method, there are defined roles for each student and a single task for the group to accomplish.

Students develop positive interdependence while working together toward a shared goal (Grau et al., 2018). This method can be an effective way to differentiate instruction while establishing group norms and group learning culture across various subjects and grades (Slavin, 1983). Furthermore, cooperative learning serves as a positive approach to reinforce learning expectations while building life skills that help in the development of positive student behavior and academic performance (Slavin, 2014).

There are a number of benefits to cooperative learning. Coady, Harper, and De Jong (2016) asserted that learners retain information after completing an activity or assignment using a cooperative learning approach. Moreover, it can boost self-esteem and build confidence in students while also cultivating important life skills like oral communication (Coady et al., 2016). Sherman (2009) found that cooperative learning improves the learning experience for even the most challenged learners (Sherman, 2009). Of particular note are the findings of Adams and Hamm (1994) which indicated that cooperative learning can promote a positive attitude towards a subject matter and fosters a community of collaboration accountability and responsibility to both individuals and group. The interactive nature of the cooperative learning structure builds a positive interdependence. The structure allows students to build interpersonal skills and peer relationships through group processing, while collaborating on a project or activity (Morningstar, Shogren, Lee, & Born, 2015).

Good and Lavigne (2017) identified three cooperative learning tools that teachers can use to help students learn more effectively, teams, goals, and project centered instruction. For cooperative learning to be effective, Zepeda (2016) advised that teachers

group students according to their strengths and how they will benefit from each other. Teachers should also consider calling these groups “teams” to encourage positive collaboration. If students believe they are part of a team, they may take more responsibility and perform at a higher level. Other benefits of cooperative learning include that it allows students to hold one another accountable and that it shifts the responsibility from the teacher to the pupil (Wolff, Wagner, Poznanski, Schiller, & Santen, 2015).

The extant literature on cooperative learning clearly demonstrates its benefits on student learning and life skills (Adams & Hamm, 1994; Coady et al., 2016; Morningstar et al., 2015; Sherman, 2009; Slavin, 1983, 2014; Wolff et al., 2015). Its applicability as a technique that supports DI has also been demonstrated (Slavin, 1983). Another teaching technique that is used in reading instruction is project-based learning.

Project Based Learning

Project based learning is a pedagogical approach that encourages students to actively explore real world problems and issues (Hung, Hwang, & Huang, 2012). When using project based learning, teachers assign students to groups or teams, and ask them to solve a real-world problem using certain classroom techniques (Savery, 2015). For example, teachers could provide students with a topic such as hunger or infant mortality and ask how to solve it (Han, Capraro, & Capraro, 2015). Project based learning fosters students’ development of higher-order thinking skills (Polly, Allman, Casto, & Norwood, 2018). Through this approach, students can acquire a deeper knowledge and understanding of an issue. It also enables students to become stakeholders in their own

educational foundation and can lead to the involvement of parents, effectively bridging the gap between the community and school environment (Duke, 2014). Furthermore, this method allows the teacher to guide the student into applying critical thinking (Blumenfeld et al., 1991). Finally, project-based learning provides teachers an opportunity to invite innovation and reform into their classroom (Blumenfeld et al., 1991). Another teaching technique used in reading instruction in the Socratic method, discussed below.

Socratic Method

The Socratic method in teaching is a technique whereby teachers enter into an inquisitive dialogue with students and pose probing questions to encourage critical thinking and lead students to work through problems or concepts on their own (Danielian, Fogarty, & Fugate, 2018). This method of teaching can be used in any grade or subject (Danielian et al., 2018). By asking students deeper, more critical questions, teachers compel the learners to dig deeper into their own method of problem solving (Whiteley, 2014). This strategy also pushes students out of their comfort zones by challenging the way they normally think or respond to issues around them. In this approach, the teacher is responsible for setting the stage for the dialogue, while the student is responsible for arriving at a solution to the problem at hand (Caldwell, 2007).

Learners who are engaged with the Socratic method typically draw upon critical thinking skills, logic, and healthy communication to solve the problem. However, the teacher must be prepared to employ different approaches to their lines of questioning to help the learners master the objective successfully (Paredes, 2017). When applying the

Socratic method, teachers can check for understanding by assessing students' knowledge on the topic using a before and after activity (Paredes, 2017). It is also important to note the drawbacks of this approach. For example, some learners have a difficult time communicating openly. The next teaching technique discussed is tiered instruction.

Tiered Instruction

Tiered instruction is a form of DI that is widely used in school districts across the United States. The tiered instructional model categorizes students by their current understanding of the content (Burns, Jimerson, VanDerHeyden, & Deno, 2016). A common benefit of the tiered instructional approach is that it eliminates students having to exhibit low achievement before services are provided (Stoiber & Gettinger, 2016). Students are able to get help promptly within the general education setting. In the tiered approach, the instruction is varied based on the nature of the students' learning abilities. For example, tiered instruction can include three levels or tiers of instructional processes. All students receive Tier I instruction within an evidence-based program. Students in need of supplemental or more intensive supports, receive interventions in the form of a group (Tier 2) or through a specific plan that addresses their unique needs (Tier 3). Students' abilities to perform in line with district expectations can determine whether further instruction or intervention is needed (Shapiro, 2019).

As teachers begin to tier assignments, they should ensure that the needs of students at different levels of learning are being met (Algozzine & Anderson, 2007; Burns et al., 2016). Tiered instruction involves teaching the same material to all students at varying levels of difficulty based on the ability of each student. Adjustments are made

to the same assignment to ensure all learners are provided with the same materials and opportunity for achievement (Algozzine & Anderson, 2007; Burns et al., 2016). In order to successfully implement tiered instruction, students are challenged regardless of their level (Sugai & Horner, 2008). When students are challenged, they are compelled to grow as learners (Spencer et al., 2012).

Teachers can use a variety of tiered instruction strategies to help students develop academically, including grouping, varying levels of text complexity, and differentiating assignments (Friend & Bursuck, 2006; Pullen, Tuckwiller, Konold, Maynard, & Coyne, 2010). Teachers may find it helpful to group students according to their challenge level or learning level; these students will share similar learning aptitudes, or they may coincide over the areas in which they need reinforcement (Forsten, Grant, & Hollas, 2002). This type of instruction is recommended to help blend the learning environment (Sugai & Horner, 2008).

One way to approach tiered instruction is to design lessons that require multiple levels of student engagement (Pullen et al., 2010; Tomlinson & McTighe, 2006). Algozzine and Anderson (2007) recommended using the same assignment for different levels of instruction, just with varying levels of difficulty, because it ensures that all learners are provided with the same materials and opportunity for achievement. With this type of flexible grouping, teachers can rotate groups based upon the levels of instruction for the specific day or week (Tomlinson & McTighe, 2006).

Text complexity is another approach similar to tiered instruction. In this method, teachers vary the assignment based on student ability. Each student progresses to the next

level of instruction based on their readiness for more advanced work or their ability to understand the concepts being taught, typically placing them in groups with other students at similar levels (Friend & Bursuck, 2006). Students can also be grouped according to their learning style (visual, auditory, read/write, kinesthetic) and then provided style-appropriate resources for completing the assignment (Forsten et al., 2002). For example, students can be allowed to make posters or videos, write poems or raps, or compose short stories about a specific subject matter, depending on their abilities and interest (Barry, 2016). Text complexity requires in-depth preparation and planning on the part of the teacher (Tomlinson, 2014), especially in selecting different processes to achieve similar outcomes based on the learners' level of mastery (Tomlinson, 2001b). By providing choices for students to engage in learning, and connecting content to their current achievement level, teachers are better able to determine student growth (Acim, 2018).

Whole Grouping

Another teaching technique often employed in reading instruction is whole grouping. Whole group teaching began in the 1980s after ability grouping came under debate because critics argued that it promoted inequity. Whole grouping is an instructional approach where the teacher acts as the head of the class (Bergeron, 1990), providing the whole class with the same lesson using the same method (Cohen, 1994). Typically, lessons are designed to reach the average student in the classroom (Bergeron, 1990). This teacher-led approach usually involves using textbooks or traditional materials with little differentiation in the subject or assessment (Foorman & Torgesen, 2001). In

order to provide adequate student support for whole group instruction, teachers must allocate the necessary time and resources to identify the unique needs of each learner. After a whole group lesson, the content is reinforced in a smaller group of learners who share similar needs.

The whole group method allows teachers to present content to all students at once (Patten & Newhart, 2017). This method often serves as a first step in the learning process (Patten & Newhart, 2017). While whole group instruction caters better to certain learning styles than others, some students may adopt new learning ideas if they happen to find the lesson engaging and interesting (Patten & Newhart, 2017). Furthermore, whole group instruction ensures that every learner receives the same modeling of concepts and information within a specific topic. MacSuga-Gage and Simonsen (2015) suggested that the whole group approach can help teachers determine essential points for student success, particularly as teachers try to determine what works when planning and assessing lessons.

Cohen (1994) argued that whole group lessons are easy to plan because the teachers can use the same lesson for the whole class, rather than several more focused lessons for smaller groups. Meichenbaum (2017) expressed how educational teams can greatly support one another when using whole grouping for instruction. To increase the effectiveness of co-planning support, teachers should consider the effectiveness of both whole group and small group implementation (Meichenbaum, 2017).

Strategies for Implementation

In order for teachers to effectively implement DI, they require adequate support and resources. Available research regarding teachers' barriers to DI implementation has identified a lack of time, training, and resources on DI as major challenges preventing successful implementation (Lunsford, 2017; Varajic, 2017). Trinter (2016) found that many schools do not have the funds to provide teachers with ongoing DI training or to offer sufficient resources. Despite many teachers' lack of access to or awareness of DI resources, there are various materials available to support DI implementation (Trinter, 2016). Online programs such as i-Ready, Istation, Achieve3000, and Newsela can help break down the learning dynamic for each student. Pretesting using the assessments from the Northwest Evaluation Association (NWEA) called Measures of Academic Progress (MAP) also help support the teachers as they distinguish between whole group and small group implementation.

Scores from MAP testing can aid in teachers' identification of students' areas of struggle and connecting those areas to specific skills and learning features for remedial focus. English teachers may also need textbooks, audio books, and online interactive assignments in order to differentiate instruction in their classroom. Furthermore, access to video channels such as YouTube, Kahn Academic, and Brain Pop can assist with differentiating lessons. While there are many tools and resources available to support DI implementation in the classroom, further research is needed into teachers' experiences with implementation in order to determine how to effectively support their incorporation of this technique, especially into the reading classroom (Moore et al., 2014).

Summary

DI is considered both a philosophy and a method of teaching that respects the diverse learning needs of students while supporting all students to foster their success as learners. Establishing a differentiated classroom is recognized as a viable instructional practice used to engage students in the learning process to address the individual needs of students (Suprayogi et al., 2017). However, it does not mean all students will learn when DI is implemented (Taylor, 2015). Researchers acknowledge that the DI teaching technique has shown promise in facilitating student learning and growth and that there are notable gaps in the literature regarding the use of DI in a reading classroom and the experience of teachers with implementing DI. In this study, I aimed to contribute to understanding the gaps in the literature associated with elementary school reading teachers' struggle to effectively implement DI strategies in their mixed-ability classrooms.

Chapter 3: Research Method

The purpose of this study was to investigate the local elementary reading teachers' perceptions about DI in the classroom and to explore what teachers believe was needed to improve the effectiveness of their practice of DI. In this chapter, I present the detailed plan I followed in conducting the research, a description of my role as the researcher, and the process that I used for the identification and selection of the study participants. In the next sections of the chapter, I describe the interview protocol employed in the study, details and justification of the data collection procedures, and an outline of the process for analyzing the collected data. In the final sections of this chapter, I present the means to establish the trustworthiness of the findings and a description of the procedures that I employed to meet appropriate ethical standards for the protection and safety of participants.

Research Design and Rationale

This study was an investigation of elementary reading teachers' perceptions about using DI and about their need for training and skills to improve their effectiveness. Two research questions were used to guide the study:

RQ1: What are elementary reading teachers' perceptions about using DI in the classroom?

RQ2: What are elementary reading teachers' perceptions about DI skills needed to improve their instructional effectiveness in the classroom?

The method used for the research was qualitative. Drawing from constructivism, qualitative studies allow researchers to generate in-depth data (Merriam & Tisdell, 2016).

This qualitative method was appropriate because I was interested in understanding how the elementary reading teachers implemented DI in their classrooms and how they interpreted the experiences. The selected research design for this study was a basic qualitative design. A basic qualitative design can provide tools for researchers to study complex phenomena in their contexts (Creswell & Creswell, 2017).

In a basic qualitative study, the researcher is the primary instrument for data collection and data analysis (Merriam & Tisdell, 2016). Qualitative researchers strive for depth in understanding the participant's interpretation of a situation (Merriam & Grenier, 2019). Creswell (2007) stated, "qualitative research begins with assumptions, a worldview, the possible use of a theoretical lens, and the study of research problems inquiring into the meaning of individuals or groups that describe a social or human problem" (p. 37). An advantage of selecting a qualitative study was being able to-expand my understanding of teachers' challenges using data delivered through semistructured interviews. I was able to summarize the data for clarity, check for participants' interpretations of accuracy, and explore unanticipated or usual responses (Merriam & Grenier, 2019).

In a basic qualitative design, the participants are influenced by their own experiences. I did not select a quantitative study approach because that type of study focuses on statistical data and that was not the end purpose for my research. A narrative research design, "is a design of inquiry from the humanities in which the researcher studies the lives of individuals and asks one or more individuals to provide stories about their lives" (Creswell, 2013, p. 13). I did not select narrative research for this study

because I was not gathering detailed stories of participants' lives. Also, grounded theory was not an appropriate design for this study. Grounded theory involves multiple stages of data collection, interrelationship, and refinement of categories of information and concludes with a proposed theory (Charmaz, 2006). I was not seeking to generate a theory. Data in grounded theory studies can come from interviews, but the focus is not on obtaining rich data for thick descriptions (Merriam & Grenier, 2019). I selected the basic qualitative design because it was the most appropriate design for this study. The basic qualitative design allowed me to generate in-depth data about the participants' experiences and about what they perceived was the cause for their experiences. This design provided me with a deeper understanding of the elementary reading teachers' perceptions about implementing DI in their classrooms and the training or skills they perceive were needed to improve their instructional effectiveness.

Role of the Researcher

I am a physical education teacher at the local elementary school where the study took place and have a collegial relationship with the potential participants. According to Merriam and Grenier (2019), in a qualitative study the researcher may have some biases about the topic being studied; as a result, the researcher needs to account for possibilities that the bias could affect the trustworthiness of the data. I do have a collegial relationship with the participants in the study because we work at the same school. I am not a specialist in reading; however, the school principal assigned me to teach an intervention reading class to students because of the students' low TCAP reading scores. To minimize the potential for subjective biases, I kept a reflective journal while conducting the study.

Keeping a reflective journal can help to increase transparency during the data analysis process by providing related details on the researcher's thoughts, judgments, and biases (Lincoln & Guba, 1985; Nowell, Norris, White, & Moule, 2017).

Ethical issues can be a concern when using qualitative methods to collect data (Merriam & Tisdell, 2016). As the researcher, I was responsible for protecting the participants' privacy and minimizing any harm from the study. Although I knew the participants' names, their names were not recorded or identified in the written research reports, except by pseudonyms, to protect participants' confidentiality.

At the beginning of the interview process, I engaged participants to build rapport and to help participants feel comfortable. To ensure privacy during interviews, a somewhat quiet and semiprivate location was selected at the convenience of each participant. Before the start of each interview, I briefly explained the study I was conducting, the purpose for conducting it, and what I planned to do with the data I gathered. Also, participants were informed that they could take breaks as needed and that they had the right to stop the interview at any time or to not answer a question. I emphasized that the collected data would only be used to answer the research questions.

Data from the study will be kept confidential by storing it in a locked file cabinet for a minimum of 5 years after completion of the study. This will include hard copies of all documents, interview transcripts, journals, digital audio recorder, flash drives, and any other storage devices used during the study. Complete destruction of written and electronic files will be assured at the end of the required period. After 5 years, data on the digital audio recorder will be deleted and all transcribed data and notes will be disposed

of using a shredder at my home. The shredded paper strips will be placed in trash bags and taken to the local landfill for complete destruction.

Methodology

Setting and Participant Selection

The setting for this basic qualitative study was an urban public school in the Southeastern region of the United States. The local elementary school was considered one of the state's lowest performing schools (Public School Review, 2019). The school had been identified as a priority school to address academic performance, school climate, enrollment, and community needs. At the end of the 2017-2018 school year, the school ranked lower than 96% of elementary schools in the state and lower than 97% of elementary schools in the district (J. Jones, 2018).

The school population consisted of approximately 300 students in Grades K–5 and over 25 classroom teachers, with nearly half of these teachers being certified as reading specialists. One-third of the teachers were in their first or second year at the school. The student ethnicity consisted of 97% Black and Hispanic and 3% White, with 98% of the students from low income families. This site was of particular interest for my study because of the challenges faced by the reading teachers to implement DI in their mixed-ability classrooms.

The study participants were required to be employed at the study site. Creswell and Creswell (2017) asserted that only a few cases were necessary for a qualitative study. Sharp et al. (2012) pointed out that some methodologists consider selecting participants the most important aspect of the research. The participant sampling frame consisted of 10

reading teachers. All the participants were identified and selected through a purposeful sampling method (see Creswell, 2012; Glesne, 2011; Merriam & Grenier, 2019; Patton, 2002). The criteria for participant selection were as follows: (a) be employed at the local elementary school as a reading teacher, and (b) have at least 3 years of experience as a reading teacher. Creswell (2012) suggested that selecting participants who are knowledgeable and experienced on the topic builds credibility for the study.

According to Castillo-Montoya (2016), the number of participants required for an adequate sample for qualitative research can vary. The selection of a sample for qualitative studies should be based on the purpose of yielding the most information (Merriam & Grenier, 2019). Once permission was granted from the Walden University Institutional Review Board (IRB approval number 04-16-19-0150371), I sent a letter of cooperation to the principal asking for permission to recruit research participants and to conduct interviews. After I received the principal's approval, I sent an e-mail to all reading teachers at the study site inviting them to participate in the study. The e-mail was sent to the prospective participants' work e-mail. As requested, teachers acknowledged that they met the criteria by self-selecting to voluntarily participate in this study. Participants acknowledged their willingness to participate using their personal e-mail as instructed. Ten teacher volunteers were accepted as research participants. Creswell (2013) suggested that qualitative sample sizes should be large enough to gather enough data to sufficiently address the research questions. If I had not obtained a sample size to carry out the data collection adequately, then I would have sent a second e-mail invitation with added information and a request for teachers to reconsider participating in the study.

Instrumentation

The primary method for data collection in this basic qualitative study was semistructured interviews. As such, the interview protocol (Appendix A) for semistructured interviews is a set of questions designed for the purpose of addressing the research questions. Participants responded to a series of questions that focused on their perceptions of implementing DI and the skills needed to improve their instructional effectiveness in the classroom. These questions followed the recommendations of Patton (2002) to capture the behavior, experiences, opinions, feelings, attitudes, and knowledge associated with a research phenomenon. There were five focal questions that aligned with the research questions and conceptual framework in advance as recommended by Merriam and Tisdell (2016). I also created follow-up and probing subquestions under each focal question. Even though the follow-up and probing questions were prepared in advance, the semistructured interview model allowed me to modify the questions for clarification as needed to address the research questions. Elementary reading teachers were given the opportunity to reflect on the interview questions, and the teachers were asked to share their own experiences and perceptions. The interview questions were designed to gather information about the use of DI in the classroom and about the need to improve the effectiveness of teachers' practices. For consistency, the interview questions were asked in the same order with each participant (see Creswell, 2007). Follow-up questions were asked to obtain richer details or context. After the formal questions, I asked the participants if they had any further comments they would like to add. The final step was to thank the participants for their participation and insights.

Procedures for Recruitment, Participation, and Data Collection

The procedures for recruitment began by seeking approval from the school principal to conduct the study. Once the principal signed the letter of cooperation, teachers who met the participant selection criteria were sent an e-mail invitation letter. The invitation and a copy of the informed consent were sent to potential participants via their work e-mail and were provided a description of the study and the requirements for participation. The potential participants were chosen based on the following self-selection criteria: (a) be employed at the local elementary school as reading teachers, and (b) have at least 3 years of experience as a reading teacher. Teachers acknowledged that they met the criteria by self-selecting to voluntarily participate in this study. Individuals that understood the study well enough to make the decision to participate were instructed to indicate their consent within 48 hours by replying to the e-mail using their personal e-mail with the words, "I consent." All subsequent communication following the initial invitation was conducted using participants' personal e-mail. After informed consent was obtained, arrangements were made via e-mail with each eligible participant to set up a date and time for the interview.

Data from each interview were identified with a numeric pseudonym to protect participants' identities and to facilitate the coding of the data. Interviews were scheduled at a time that was convenient for each participant and lasted approximately 45 minutes. Nevertheless, each interview was expected to progress at a pace that was set by the participant, allowing for the emergence of richer data with each question (Hays & Singh, 2012). All interviews were audio recorded for later transcription. I monitored interviews

with reflective notes to document visual observations such as facial expressions, gestures, and emphasized statements (see Pietkiewicz & Smith, 2012). At the conclusion of the interview, participants were offered the opportunity to schedule a brief 15-20 minute follow-up meeting to discuss any post-interview thoughts or to ask clarifying questions. It was suggested that the follow-up meeting be scheduled through e-mail within two weeks of the completion of the interview. Three participants requested a follow-up meeting. Each follow-up meeting was conducted face-to-face and held at the participant's home. The meetings lasted approximately 10-15 minutes.

Debriefing procedures regarding participants' right to withdraw their data from the study or exit the study at any time were outlined in the informed consent and reviewed before the start and conclusion of each participant's interview session. The data collection, which included interviews, transcript validation, and member checking, occurred over a 3-month period. The interview questions were first examined by educators not related to the study but who had knowledge of DI practices and about conducting research. The feedback from the educators' review of the interview questions was used to make improvements to the questions before beginning the interviews. Modifying the questions based on the feedback contributed to ensuring the questions would yield the responses to address the research questions. Obtaining the input of the professional educators verified the reliability of the instrument and established content validity.

Data Analysis Plan

The interview protocol consisted of ten primary open-ended questions directed to provide information for the two research questions. Five focal questions, along with probe and follow-up questions were developed to align with each research question. The set of interview questions for RQ1 were directed to provide information about the teacher participants' experiences about implementing DI. The set of interview questions for RQ2 were directed to provide information about participants' instructional skills and practices.

Data analysis commenced with the process of immersion (Pietkiewicz & Smith, 2012). Immersion entails listening to the recording of each interview after its conclusion to review the content, record any additional observations in the reflective notes, and transcribe the responses (Smith & Osborn, 2008). After transcribing the interviews line-by-line, I reviewed each completed transcript along with the recording to ensure accuracy and to facilitate deeper immersion in the data. Using a hand-coding method, data analysis was performed with open and axial coding to identify emerging themes from participants' responses. Following the immersion process, I transferred the interview transcript data and reflective notes to a spreadsheet to facilitate and manage the process of data coding. Data analysis followed a step-by-step process that is outlined in Chapter 4.

With the research questions in mind, I coded the data into their respective anchor codes. Using this approach, I assigned themes to categorize the main patterns of meanings in the interviews (Bazeley & Jackson, 2013). I explored the data for the themes or for other relevant text in the data across all interviews (Silver & Lewins, 2014). After

the initial coding process, I categorized the data based on similarities and frequencies. At this stage, I merged some of the initial codes due to overlap with other codes.

For the next step in the data analysis process, the coded data were categorized into groups to generate a system of shared meanings or references in the range of participant responses (Allen, 2017; Saldaña, 2014). Miles, Huberman, and Saldaña (2014) suggested organizing the clustered information into a hierarchy from specific meanings to more general meanings using metaphors or short phrases to describe each cluster of thematic meaning. At this point, the data were coded into main themes and subthemes related to teacher perceptions of DI. I developed a table to aid in the data presentation that included the categories and identified themes related to each research question (see Miles et al., 2014).

As I analyzed the data, I looked for evidence of discrepant cases. Merriam (2009) stated that discrepant cases are data that may disconfirm or dispute the projected or developed findings. I reviewed the data from the eight face-to-face and two phone interviews. As I searched the transcripts, I looked for examples of data that did not fit emergent themes or patterns. During the examination of the transcripts, I did not locate alternative themes or inconsistent patterns that corresponded to my study.

Trustworthiness

The trustworthiness of a qualitative research study is determined through its credibility, confirmability, transferability, and dependability of the data (Lodico, Spaulding, & Voegtle, 2010). The *credibility* of research design and execution refers to the steps taken to ensure the measures and procedures accurately capture the

characteristics of the phenomenon or construct under question (Morrow, 2011; Shenton, 2004). I captured what the participants believed, experienced, and perceived through transcript validation and member checking. Transcript validation allows participants to verify the accuracy of their responses. Member checking is the act of providing findings or summaries of findings to participants for their review to ensure that recording and interpretation of their responses were not prejudiced by the researcher's biases (Lodico et al., 2010). I conducted the transcript validation and member checking by providing each participant, through e-mail, a copy of their responses and my initial interpretation of findings with respect to the themes generated from data analysis and their statements.

The *transferability* of research findings is defined as the extent to which findings from a particular study may reflect other settings, contexts, and respondents (Shenton, 2004). To ensure the transferability of findings, Shenton (2004) recommended providing thick descriptions of the study context, setting, and informants. I provided a full description of all the contextual factors that affect the study to enable comparisons with other contexts.

The *confirmability* of the findings relates to the steps taken by the researcher to make sure the findings are an objective representation of reality and not biased by the researcher's subjective views (Kornbluh, 2015). I strengthened confirmability by keeping a reflective journal. Analytic memos recorded in the journal have been described as "a place to dump your brain" about participants, phenomena, or processes under investigation (Saldaña, 2014, p. 32). The analytic memos enabled me to self-reflect on the content of the qualitative data and the process of data coding.

Finally, I achieved dependability by revealing the consistency in the data analysis process and the identification of themes and patterns from the interviews of the participants in my study. I recorded the interviews using a digital recorder. Following the interviews, data were transcribed verbatim. I used a hand-coding method to analyze the data. Data were analyzed using a step-by-step process of open and axial coding outlined in the data analysis plan and in Chapter 4. For the open coding process, I read and reread the transcripts to search for frequently used words and phrases that pertained to DI. During the axial coding process, I was able to group and then reduce the codes to identify significant links to the research questions. I used my reflective journal to document the coding processes and to document the participants' responses from the face-to-face and phone interviews related to the research questions. Three themes and seven categories emerged.

Ethical Procedures

In general, ethical research with humans reflects the principles of respect for justice, autonomy, beneficence or do good, and/or do no harm (Sales & Folkman, 2000). Several steps were taken to respect the principles for the ethical protection of participants including (a) informing participants of the purpose of the study, (b) sharing information about the study with participants, (c) conducting meetings in a secured location selected by the participants, (d) respecting the thoughts and feedback of the participants, (e) using ethical interview practices, (f) maintaining confidentiality, and (g) securing all collected data.

The informed consent process ensures that participants are given full knowledge about the purpose of the research, the expected procedures and duration, their ability to decline participating, and their ability to withdraw from the study once it has begun. No participants withdrew from participating in the study. The participants were informed about potential risks, discomfort, or adverse effects of the research, although none were expected given the relatively innocuous nature of the research questions. Participants were guaranteed confidentiality. The process entailed e-mailing the invitation letter to prospective participants' work e-mail, e-mailing subsequent messages to participants' personal e-mail, keeping all study data and notes in protected files, conducting interviews in a manner and location convenient for the participants, and coding participant information using pseudonyms. Data from the study will be kept confidential and secure for a minimum of 5 years after the completion of the study and subsequently destroyed. This includes hard copies of all documents, interview transcripts, journals, audio recordings, flash-drives, and any other storage devices used during the study. Overall, the research methods ensured that I respected the confidentiality of the participants. All participants' responses were used for the purpose of the research. Prior to commencing the study, approval was received from Walden University's IRB to conduct the study under these conditions.

Summary

This chapter provided a detailed description and justification of the research methods that were used to conduct a basic qualitative study of elementary reading teachers' perceptions about DI. A basic qualitative research design with semistructured

interviews was selected as an appropriate method to collect data to address the research questions for this study. The participants were selected by using a purposeful sampling method to identify elementary reading teachers who work in classrooms where DI is employed. Teachers who agreed to participate in the study took part in semistructured interviews to obtain their perceptions on using DI in the classroom and what they believed was needed to improve the effectiveness of their practice. Interview data were analyzed to generate themes and meanings associated with teacher perceptions of DI and to answer the research questions.

Chapter 4: Results

The purpose of this basic qualitative study was to investigate the local elementary reading teachers' perceptions about using DI in the classroom and to explore what teachers believe is needed to improve the effectiveness of their practice. The following research questions guided the study:

RQ1: What are elementary reading teachers' perceptions about using DI in the classroom?

RQ2: What are elementary reading teachers' perceptions about DI skills needed to improve their instructional effectiveness in the classroom?

Chapter 4 contains a discussion of the data collection and data analysis processes, as well as the components involved in establishing trustworthiness in this research study. I also present the findings and supportive data.

Setting of the Study

Each year the state issues a report card that ranks and compares schools across the entire state and within each school district. Based on standardized assessment data posted, the local elementary school consistently ranks as one of the lowest performing urban schools compared to other schools in the state and district (J. Jones, 2018; Public School Review, 2019). After the flight of students from low performing traditional public schools in the district to selective public schools and public charter schools, the enrollment at the local elementary school declined by 23% to about 300 students.

In 2012, the school system underwent a major rezoning of schools making the local elementary school part of one of the largest school districts in the state (Zubrzycki,

2013). Seven of the participants were teaching at the local elementary school during the state's redistricting intervention of underperforming schools and before the implementation of DI. At the time of the participant selection for this study, a district leader alluded to the possibility that due to poor academic performance, the study site was vulnerable for state takeover (school administrator, personal communication, April 30, 2019). If taken over, the school could possibly be operated as a state-run charter school or be closed permanently. It is important to note that when I conducted the interviews, the participants may have been under pressure as the school's fate was dependent on student improvement on the upcoming state standardized assessments. The district administrators linked student progress on the assessments to the teacher performance evaluation system.

Ten teachers consented to participate in the study. All participants met the established criteria of being employed at the local elementary school as reading teachers and had taught reading for at least 3 years. Some of the teachers were new to the local elementary school, but taught reading in prior jobs. Three of the participants were in their first-or-second year of teaching reading at the local elementary study site, and one participant had been employed at the school for over 20 years. Seven of the 10 participants had experience teaching another discipline before teaching reading at the study site. In addition, two of the participants completed requirements to become a certified literacy coach while teaching at the study site.

Data Collection

I collected interview data as part of a basic qualitative design to address the research questions. The aim was to obtain thick, rich descriptions of participants' "lived experiences" (Patton, 2002, p. 102) about implementing DI in the classroom. To recruit participants, teachers at the local site were invited through e-mail to participate in the study. Of the 27 teachers on staff at the study site, 12 were eligible to participate. Of the 12 participants contacted, 10 consented to being interviewed.

Prior to recruiting participants, practice interviews were conducted with two educators not associated with the research study or the study site. The two educators were able to provide insight about the clarity of the interview questions as well as my performance as an interviewer. The mock interviews allowed me to rehearse interviewing and become more familiar with the interview process. Rather than use a pre-established interview tool, I developed open-ended focal interview questions, along with follow-up and probing questions. According to Creswell (2013), open-ended questions provide more options for the participants to respond openly about their lived experiences. Using focal interview questions, probes, and follow-up questions allowed data saturation to be reached.

I conducted interviews during the last 3 weeks of the school year, which created time constraints for the study participants. Initially, as mentioned in the data plan in Chapter 3, all interviews were to be conducted one-on-one through the face-to-face method. However, I found it difficult to schedule one-on-one interviews face-to-face with all the participants. To accommodate participants, another option for interviews was

made available. Vogl (2013) suggested that the interview method should be negotiated by the interviewer and the interviewees. The informed consent indicated that the interviews would be arranged at the convenience of the participants. Online communication pervades our lives daily (Salmons, 2016). According to Bowden and Galindo-Gonzalez (2015), the age of digital technology makes qualitative research methods a more viable option for data collection. Abrams, Wang, and Galindo-Gonzalez (2015) recognized that though face-to-face interviews have been the primary source of qualitative data collection, data collected by e-mail allows participants to reflect on the interview questions and thereby provide more thoughtful answers. Sturges and Hanrahan (2004) and Holt (2010) recognized phone interviews as a suitable method in qualitative research. Even though prior literature suggested that phone and face-to-face interviews most likely would yield different results, Sturges and Hanrahan (2004) found that the interview transcript data from both methods of data collection revealed no differences. Eight participants were available to be interviewed face-to-face. However, two participants requested to be interviewed one-on-one through phone calls. For the two phone interviews, participants were provided with the interview questions in advance by e-mail. This was done to assist the participants with a visual representation of the questions.

Per my Walden IRB approved application, I conducted 10 semistructured, individual interviews. Semistructured interviews were conducted with eight study participants using the face-to-face method, and two interviews were conducted via phone. Alshenqeeti (2014) stated that semistructured interviews are the most common for collecting qualitative data. The interview for each participant was conducted in a location

selected by the participant. Six interviews were held at the local library in a small group room that was reserved in advance. Two face-to-face interviews were conducted at each of the participant's home. For the interviews conducted in the home, each participant provided a room with few distractions. At one home, the television in an adjacent room was turned on for about a minute. However, no physical interruptions occurred at either location. For the two participants who elected to interview by phone, I conducted the interviews via speaker phone and recorded the interviews with a digital recorder. I e-mailed the interview questions to the participants' personal e-mail 3 days before the call to provide them with the questions for clarity and reference, if needed. During the phone interviews, I used the interview protocol in the same manner as the face-to-face interviews. The recorded phone interview data were transcribed verbatim and added to the collected data.

I used an interview protocol (Appendix) to elicit the participants' perceptions of DI. The interviews varied in length, but generally lasted no longer than 45 minutes. I followed the interview protocol closely, asking questions in the order listed on the script. I asked follow-up and probing questions when necessary to motivate participants to provide clarifying information without influencing their answers. On two occasions during the interviews, I was asked, "What answer are you looking for?" and "Did I answer the question?" When responding, I purposefully remained neutral to avoid leading the interviewees to a specific answer. Sutton and Austin (2015) recognized that the opinions regarding bias in qualitative research vary. The authors stated that "there is a lack of agreement on how much researcher influence is acceptable." Applying a neutral

approach minimizes bias and keeps the researcher from encouraging or discouraging certain answers (Sutton & Austin, 2015).

Interviews were recorded using a digital audio recorder, which captured the eight in-person interviews and the two phone interviews. To record during the phone interviews, I placed my phone that was on speaker mode on the table and put the digital recorder next to it. The recorder was turned off when breaks were taken during the interviews, but no discussions about the study were held. Prior consent to record was obtained from each of the 10 participants. Also, permission to record the interviews was confirmed with each participant before the start of the interview. Once an interview was completed, I immediately transcribed the information on the digital recording into a Microsoft Word document. The interview data were transcribed verbatim. Participants' responses were organized into a Microsoft Excel document. Two tabs were created in the spreadsheet, one for each research question. I created a matrix to organize the interview responses under each question. For example, under the column heading interview question 1 (IQ1), each participant's response was placed in rows in the order of the interview. Table 3 displays a sample of the matrix.

Table 3

Sample of Matrix Used to Organize Interview Data

IQ1: What does differentiated instruction mean to you?
P1: Providing various levels of work for different students.
P2: Meeting the needs of all students.
P3: Providing students with work based on their ability and their level; differentiating based on what they know and meeting them where they are.
P4: Using different strategies to reach different learning abilities and styles.

Data Analysis

Data collection and analysis were conducted iteratively in which each stage of data collection was followed by a brief analysis providing input for the next step. Nowell et al. (2017) contended that for qualitative data analysis to yield useful results, it must be conducted in a systematic manner. Data were analyzed inductively with an emphasis on seeking emerged themes using the processes of open and axial coding. Coding connected the qualitative data collection phase with the data analysis phase of the study (Saldaña, 2014). Using hand coding, data analysis was performed and entered into a Microsoft Excel worksheet. The step-by-step approach for the data analysis process was completed as described in Chapter 3.

- Step 1 of the open coding process entailed implementing the word frequency procedure. I manually searched each interview transcript line-by-line for frequently used words and/or significant statements from participants' responses that had a specific application to DI. The words and phrases were

highlighted using a series of colors and assigned an initial code. Each code was assigned a specific highlighted color.

- Step 2 of the coding process involved rereading the different participant responses to each interview question to note patterns and common themes that appeared in the data that related to the research questions.
- Using this approach, for Step 3, I then assigned themes to represent and categorize the main patterns of meanings in the interviews. I explored the data for the themes or for other relevant text in the data across all interviews.
- In Step 4, I checked each code for overlapping meaning with other codes. This axial process helped me to define, describe, and link together the codes into groups to produce an initial list of main themes. At this stage, I abandoned or merged some of the initial codes due to overlap with other codes.
- In Step 5, I categorized the coded data into groups to generate an overall system of shared meanings in the range of participant responses. I created a table to organize the clustered information from specific to more general meanings. Data were examined for relationships of the categories to the research questions. I included quotes of participants' words in the initial categorization table.
- During the coding process, I kept track of any emerging understandings in my reflective journal. The journal notes helped ease the data analysis process because I was familiar with the data. Lastly, data were coded into three major themes that related back to the research questions.

Study Results

In this section, the themes that emerged from the collected data are reported and discussed. The following themes were derived from the face-to-face and phone interviews: (a) teachers rely on traditional instructional strategies because DI is challenging to implement, (b) teachers need instructional resources and administrative support to employ DI with fidelity, and (c) professional development is needed to build teacher capacity. I identified seven data categories that aligned with the problem statement and the research questions. I explain the themes using participants' statements from the one-on-one interviews. To present the data from the interviews, I used participant numbers to conceal and protect their identities.

The problem that prompted this study was that elementary reading teachers experienced difficulty implementing differentiated instructional strategies in their mixed-ability classrooms. The following research questions guided the collection and analysis of data:

RQ1: What are elementary reading teachers' perceptions about using DI in the classroom?

RQ2: What are elementary reading teachers' perceptions about DI skills needed to improve their instructional effectiveness in the classroom?

I examined teachers' perceptions about current practices and needed skills and training by collecting and analyzing data from one-on-one interviews. Based on the evaluation and analysis of data from all sources, categories of responses were identified;

from these response categories, themes emerged which were aligned with the research questions (see Table 4).

Table 4

Data Analysis Categorization

Research questions (RQ)	Categories	Themes
RQ1: What are elementary reading teachers' perceptions about using DI in the classroom?	• Implementation complications • Time intensive • Too many learning needs in one classroom • Inadequate resources • Administrative support	Theme 1: Teachers rely on traditional instructional strategies because differentiated instruction is challenging to implement. Theme 2: Teachers need instructional resources, and administrative support to employ differentiated instruction with fidelity.
RQ2: What are elementary reading teachers' perceptions about DI skills needed to improve their instructional effectiveness in the classroom?	• Professional development on DI best practices • Teacher collaboration	Theme 3: Professional development is needed to build teacher capacity.

Theme 1: Teachers Rely on Traditional Instructional Strategies Because Differentiated Instruction is Challenging to Implement.

Implementation complications. Teachers conveyed several thoughts about DI that seemed to acknowledge the importance of engaging students in differentiated instructional strategies. Participant 1 described DI as "providing various levels of work for different students to meet all needs." Participant 3 and Participant 7 conveyed similar statements as Participant 1. Participant 3 asserted that DI means "providing students with

work based on their ability and their level." Participant 7 stated that DI means "providing students with work according to their interests at their level." Teachers also stated that DI means (a) "meeting the needs of students with different abilities"; (b) "adjusting or modifying the lessons to maximize student learning"; (c) "using different strategies to reach different learning abilities and styles"; and (d) "DI isn't new. It's just new for us....We adjust the lessons to maximize learning." Although participants were able to describe DI, participants' responses indicated difficulty with implementing the approach.

Participants expressed difficulties with implementing DI in daily practice. For example, Participant 8 stated that differentiation is difficult to implement on a daily basis when you are not quite sure of what to do. Participant 8 also stated, "I don't know how to use it [DI] effectively in my classroom." Participant 9 explained that at times they "stick with what works." Participant 6, alluding to the struggle of implementing DI, admitted that "every day is a challenge." The essence of the teachers' responses was captured in these statements: "Teaching the same thing to different students but at different levels is not easy" (Participant 2) and "What is important in my classroom is helping students succeed however that may look" (Participant 9).

Teachers mentioned several reasons why they considered DI complicated to implement. For example, four teachers indicated that the district's scripted curriculum and pacing guides hindered the flexibility and creativity needed to implement DI based on students' readiness and interests. Participant 1 said, "I have to take baby steps with the majority of the students even though I am required to keep up with the pacing guide and curriculum maps." Participant 4 stated that "it's frustrating watching students struggle to

keep up" and that "it's hard leaving students behind. The pacing guide just moves too fast." Participant 2 said, "The curriculum doesn't allow us to teach basic decoding and phonics skills to students after first grade even if it's what they need." Participant 2 found success in using the whole language reading approach rather than literacy centers. "Managing the groups was too much...I use good literature like picture books, folk tales, fiction, and some nonfiction." To circumvent the curriculum constraint, Participant 5 stated that "I create my reading lessons" and "I adjust the pacing guide to fit the lessons." Participant 9 said, "I sometimes have to go off script and provide students with what they need. I create hands-on activities that students like." Participant 3 noted that teaching multiple classes with large class sizes hinders the ability to focus on students' skills. Participant 3 also expressed that "one of the classes required six groups which were hard to manage."

Another obstacle mentioned by participants as complicating the implementation of DI was the lack of teacher experience with DI. Several teachers emphasized being accustomed to traditional teaching methods. The difficulties with implementing DI required some teachers to revert to what they know best. One participant said, "Differentiated instruction is not my area of expertise. I don't know enough about it."

Likewise, Participant 3 stated, "I adapt my teaching many ways to increase [students'] reading skills"; Participant 9 said, "I'm old school. I teach phonics as part of balanced literacy"; and Participant 8 mentioned, "I liked the whole language training." Even though teachers struggled with implementing DI strategies, some considered their experiences with the implementation a success. Participant 7 stated, "I like to

differentiate. It's working with my kids." Participant 5 explained, "I didn't always use differentiation the right way, but my experiences with it were good. Similar to Participant 5, Participant 8 said, "Organizing activities and lessons based on student needs is making a difference. I can see the progress." Participant 6 described an incident when differentiating a reading lesson. Participant 6 stated:

> I prepared a reading lesson for the class where my higher-level learners worked cooperatively in a group on a project. I used the same lesson with my struggling readers. The more able students worked independently on another hands-on activity. I provided a lot of support to the struggling students. First, I modeled the activity for the struggling learners and then I stayed close by to monitor. I prefer direct instruction. However, differentiating this lesson based on what students needed helped them catch on quicker.

Participant 6 clarified that there is a place for direct instruction and group work. "It's about equity, not equality. I modify the lessons according to what the students need."

Time intensive. It was suggested by Participant 2 that implementing DI is beneficial to student success, but it can be time-consuming. Teachers' responses showed that aspects of time were a major hindrance to implementing DI. Nine out of 10 teachers expressed that time was the greatest barrier. When asked what the greatest barrier is to implementing DI, Participant 1 said, "Time is a factor and we can't control it." Participant 3 stated that "Time is the main challenge to providing differentiation." Participant 7 said, "District mandated schedules don't allow time to implement differentiated instruction in the way teachers would like." Other participant responses

identifying time as a barrier included: (a) “Time because differentiation takes too much preparation” (Participant 8); (b) “Having enough time to make sure what happens is vital” (Participant 5); (c) “Differentiation is time-consuming... I do what I can with the time I have” (Participant 9); and (d) “There’s no time to organize and prepare the lessons” (Participant 4). Responses suggested that time constraints made differentiating instruction challenging to implement.

Because of the time constraints, teachers modified their differentiating practices. Rather than using flexible grouping for meeting individual needs, two teachers referred to grouping their students in yearlong classes based on ability. According to Participant 10, “My training experience with differentiated instruction included flexible grouping, small group, and large group instruction, but organizing and managing the groups took a lot of time and planning.” Participant 4 said, “Differentiation begins with assessing students to learn what their needs are. We [teachers] don’t fully understand what students need because the scripted preassessments take too long.” The teacher, referring to unit preassessments, acknowledged the importance of the information about students’ knowledge and skills obtained from the assessments to help teach students what they need to know. It was further implied that giving the assessments took away from actual time on instruction. To address the issue, Participant 4 stated, “Instead of the scripted preassessments, we [teachers] create and administer assessments for the first part of the unit only.”

Too many learning needs in the classrooms. Differentiation has been documented as a viable method for meeting students’ needs in mixed-ability classrooms

(Tomlinson, 2001b). Participant 7 stated that establishing a good match between teaching and learning is difficult because of the diverse student needs in the classroom. DI requires teachers to address individual student needs. Large class sizes increase the likelihood of greater diversity. Teachers expressed having difficulty managing instruction due to students' diverse needs. Participant 8 said, "In one class, some students are advanced, and some are on a kindergarten level." Participant 3 said, "Learning is different for all the students in a particular class because they perform so low academically." Participant 9 stated:

> Diversity is the greatest barrier to implementing differentiation because there just isn't enough time to address all the needs. Time prevents the teachers from meeting [students'] individual needs, but it's the diversity that affects the learning environment. There are just too many issues to deal with in one class.

Participants 4 and 6 agreed that DI is difficult to implement because of students' low academic performance. Participant 4 said, "Ideally, differentiating for my low achievers means I have to have 5 different groups. Likewise, Participant 6 said, "It's difficult to differentiate with certain students because they're so low academically."

Teachers understood that designing lessons to meet students' individual learning needs was important. However, teachers concern for improving state standardized reading scores left them questioning whether using the DI approach would improve student performance. Participant 2 said, "DI was supposed to help our scores." Similarly, Participant 5 said, "DI may work if done correctly, but how will implementing it help our test scores." While Participants 2 and 5 and others expressed concern about the

effectiveness of using DI strategies to raise standardized scores, Participant 7 found that implementing DI was beneficial. Participant 7 said, “With differentiation, I can reach children at different levels and skills...My students made more than a year’s growth in reading.” Participant 10 stated, “We have room to improve, but the reading scores have seen the most improvement since we started using DI purposefully.”

Theme 2: Teachers Need Instructional Resources, and Administrative Support to Employ Differentiated Instruction with Fidelity

Inadequate resources. While implementing DI with fidelity appeared relatively simple, teachers expressed that the inadequacy of resources contributed to making the process of implementing the DI strategies in the classroom more difficult. Participant 5, who uses stations in the classroom to build students’ skills stated, “To differentiate on the content, I need materials students can read.” “Different skills are targeted as students rotate through each station.” Participant 5 also expressed that “additional skills could be targeted if the materials were available.” Participant 7 stated that students could benefit from building reading skills on i-Ready, but “computers do not always work or there aren’t enough for all the students.” Regarding computers, Participant 4 agreed with Participant 7 that “There aren’t enough computers for my small groups.” Participant 6 said, “DI requires us to use flexible grouping. It’s hard to do because sometimes I don’t have access to the resources I need because we have to share books.” Participants 2, 3, and 10 felt differently about this topic. Participant 2 said, “I don’t see any limitations on resources that could be used to aid in implementing differentiated instruction.” Participant 3 said, “We are lucky to have administrators that give us what we need to

make instructional decisions to differentiate for individual students." Furthermore, Participant 10 said, "DI is a learning experience for us all, but at least we have the resources we need to be successful at [implementing] it."

Administrative support. Even though implementing DI at the local site was mandated by district leaders, interview data indicated that teachers are better able to implement DI with fidelity with administrator support. Participant 1 said, "It is up to the administrator to make DI a priority." The statement made by Participant 1 implied that it is the responsibility of the local school leaders to set the proper foundation for facilitating the implementation of DI effectively. Participant 5 said, "If improving instruction and test scores is the goal, the principal needs to provide more support." Participant 3 cited administrative support as a limitation and further explained that the district mandate of implementing DI could have been articulated more clearly by the local administrators. Teachers expressed that the lack of support affects teacher morale. Participant 6 stated:

> Sometimes I just want to say, well I just won't do all this, and I go back again and say no, I have to stay positive. I can't let what the district does or does not do affect what I do for children. I have to differentiate to help meet their needs.

Similarly, Participant 2 stated that "administrators need to support us [teachers] by making time in the schedule for us to plan....We [teachers] struggle with finding time to make implementing differentiation a reality."

In addition to adjusting the master schedule to facilitate the implementation of DI, teachers expressed that administrative support is needed to manage student behavior and attendance issues. Participant 9 stated that "students' disruptive behavior is a big

problem." Similar statements were made by three other teachers: (a) "It's difficult to manage small group instruction when students don't behave" (Participant 2); (b) "At times, students are disrespectful to the teachers and other students" (Participant 10; and (c) "Off-task behavior interrupts the lesson (Participant 6)." When sharing about student attendance, Participant 8 said, "Some students are absent or come to school late at least 3 times a week after instruction has started." Participant 10 stated that "Student attendance has to be addressed by the administration.... We can't teach them [students] and they can't learn if they're not at school." In contrast, Participant 7 did not consider administrator support a problem. Eight of the 10 participants disagreed with Participant 7. Participant 7 said, "I'm able to voice my concerns to the administrators, and they provide me with the support and flexibility I need to do what is best for the children." This was the only discrepant response in the study.

Theme 3: Professional Development Is Needed to Build Teacher Capacity

Professional development on DI best practices. Participants shared similar views about the inadequacies of the available professional development to support teachers' understanding of implementing DI. While all teachers acknowledged attending at least one professional development session, Participants 1, 3, 6, and 8 identified the need for additional professional development. Participants said, (a) "There was very little effective professional development" (Participant 1); (b) "Training teachers to implement DI can help them to better facilitate DI strategies during instructional time" (Participant 3); (c) "What we need is focused training in differentiated strategies if we expect to improve DI in the classroom." (Participant 6); and (d) "Professional development can

help improve the effectiveness of DI with the different levels" (Participant 8). Responses about professional learning revealed that teachers expressed the need for a clear understanding of DI best practices. Participant 4 said that "when learning about DI, the district provided 1 day or 3-hour workshops and then expected teachers to use the strategy. This was not realistic." Participants 2 and 3, agreeing with Participant 4, also felt that teacher development should be ongoing. Participant 2 said, "Continuous professional development is desperately needed." Likewise, Participant 3 said, "We need a better understanding of what DI entails, and strategies on how to implement it in our classrooms; so, training has to be a continuous process until we get it [DI]."

Participants identified the skills they would need to improve the implementation of DI. Participant 10 stated that "Teachers are so used to the scripted reading programs that they first need to understand how to pull the correct materials to use for differentiating instruction." Participant 2 expressed that training on differentiating the content would be beneficial. Participant 2 said, "For me, training is needed on learning how to plan lessons and differentiate content that is being taught to meet the different needs." Providing a variety of materials is one way to differentiate content. Participant 2 explained, "I need materials to use for the different levels such as lessons, tests, and projects." Participant 5 mentioned that professional development was needed for selecting materials for various reading levels. Participant 7 expressed needing training in "Using materials at varying readability levels." Other skills needed to implement DI effectively that were mentioned included: (a) "Teaching the teachers how to test and using that data to assess what students need" (Participant 5); (b) "Using time efficiently

to plan for and manage instruction" (Participant 9) ; and (c) "Scaffolding instruction using centers so students can learn more about the subject matter on their own" (Participant 4). Also, Participants 4, 5, and 8 suggested teachers should receive professional development in managing multiple groups and activities which is a primary strategy in differentiation. Participants indicated the importance of grouping students to accommodate individual needs. Responses included: (a) "You need to know how to use flexible grouping to meet the individual needs, especially small group instruction" (Participant 4); and (b) "Grouping and regrouping students for instruction based on different levels must be a continuous process" (Participant 5); and (c) "Effective DI training shows us how to provide instruction to diverse groups of students and not just about placing students in groups" (Participant 8).

Teachers agreed that training was needed in specific skills such as planning and classroom management to implement DI effectively in their classroom. Participant 10 stated that teachers needed to learn how to embed DI into the existing curriculum. Participant 10 said, "The curriculum isn't the problem. We just have to rethink this and design instruction to support learning for the students."

Teacher collaboration. Collaboration with colleagues strengthened different aspects of teachers' understanding of DI for determining appropriate supports for students. Teachers expressed that when time allowed, collaborating with team members had a positive influence on their instructional practices. All participants emphasized that consistent collaboration was needed to have meaningful discussions about DI. Interview

responses from Participants' 1 and 3 highlight the importance of collaboration among colleagues. Participant 1 stated:

> When we collaborate, which isn't often, most of our time consists of going over lessons, intervention practices, and discussing departmentalizing. We need time to share what's working and not working so we can help students. We need to be sharing ideas that can be used in the classroom.

Along the same lines, Participant 3 stated:

> Collaboration is critical to me. Understanding how students learn best in other settings helps me to foster success in the classroom. Learning from other professionals has been a great resource for me while embracing DI.

Participant 5 said, "The sharing of ideas gives collaboration a productive meaning." Participants 2 and 4 shared a similar view that collaboration improved their classroom management practices. Participant 2 said, "Classroom management pointers from other teachers have helped me with differentiated instruction in the classroom. We can't teach if we're dealing with behavior problems all day." Similarly, Participant 4 said, "Collaborating with my team has improved my teaching especially with dealing with behaviors in the classroom,"

The interview responses were presented according to the themes. Participants' perceptions revealed that even though teachers were able to describe DI, limited teacher knowledge of the instructional approach, as well as other factors, hindered its implementation. Participants recognized that implementing DI with fidelity required addressing systemic and pedagogical issues.

Evidence of Trustworthiness

Establishing trustworthiness is one way of evaluating the validity of qualitative research. According to Lincoln and Guba (1985), it is the responsibility of the researcher to ensure the accuracy of their qualitative research. For this study, trustworthiness was addressed through the criteria of credibility, confirmability, transferability, and dependability. During data collection, interviews were digitally audio recorded and then transcribed to ensure no data were lost or missed.

Credibility

The methods that I used to establish credibility were through transcript validation and member checking. Carlson (2010) maintained that member checking provides a level of authenticity to the qualitative instrument and validity to the participants' data. As mentioned previously in Chapter 3, transcript validation involved participants verifying the accuracy of the verbatim transcript and member checking involved participants verifying the accuracy of my interpretation of the findings regarding their interview responses. Transcript validation and member checking served to decrease the incidence of incorrect data and the incorrect interpretation of data to provide findings that are authentic and original (Creswell, 2012). Member checking was suitable for the study because it allowed any of my biases to be exposed while establishing credibility through the participants' beliefs, experiences, and perceptions of differentiation, and my interpretation of the interview data (Kornbluh, 2015; Merriam & Grenier, 2019). In the informed consent, I mentioned that the participants would have the option to perform the member checking by e-mail, phone, or in person. The school year had ended when it was

time to perform the transcript validation and member checking. About 3 weeks following the conclusion of the interviews, I e-mailed a copy of the interview transcript and a summary of the findings to each respective participant so they could review the information. I requested participants to conduct the transcript validation and member checking and to respond to the e-mail within 10 days. Seven participants replied to the e-mail within 3 days. After reviewing their interview data, the seven participants were satisfied with their responses. No changes to participants' responses or the findings were requested. Of the three who did not respond to the initial e-mail within 10 days, follow-up attempts were made again by e-mail and then by phone to request their participation in the transcript validation and member checking process. The follow-up attempts were successful. Two participants verified the accuracy of their interview responses and the summary of the findings during a phone call. No data were changed or added. The last participant responded to the follow-up e-mail. Through e-mail, the participant validated the accuracy of the respective information. Again, no changes were made to the transcript or findings.

Confirmability

Steps were taken to ensure that the findings represented the participants' beliefs, thoughts, and opinions and were an accurate interpretation of the participants' views. Including verbatim quotes when reporting the research results, and corroboration of participants' responses through transcript validation and a member check strengthened the confirmability of the findings. Keeping a reflective journal also contributed to strengthening confirmability (Anney, 2014). The analytic memos enabled me to self-

reflect on the content of the interview responses and aided in the data analysis process. I used the memos to check for any subjective interpretations made about the findings and to assess how I related to the meanings behind the participants' responses.

Transferability

Rich and thick descriptive data and specific details concerning the methodology and contexts including a full description of the setting increased the potential for transferability. I included quotes when reporting the results to aid in providing thick description. Many schools in the local district share similar demographics with the local elementary school and may be challenged with establishing differentiated classrooms at their site. Providing thick descriptions of the setting and participants in the study increased the potential for applicability of the results and findings in other situations and contexts (see Merriam & Grenier, 2019).

Dependability

Dependability determined the consistency with which the findings of the study were repeated and achieved similar results (Shenton, 2004). I kept a personal reflective journal to provide continued awareness of potential bias toward participant responses. I achieved dependability by revealing the consistency in the data analysis process and the identification of themes and patterns from the interviews of the participants in my study.

Summary

In this chapter, I presented details about the methodology to include information about the study site and participants, data collection procedures, and steps taken to ensure the validity of the research. Also, I included full details about the data analysis process

and results. Three overarching themes and seven response categories were identified from the qualitative data that provided insight into the research questions.

RQ1: What are elementary reading teachers' perceptions about using DI in the classroom?

Theme 1 indicated that teachers relied on traditional instructional strategies because DI was challenging to implement. Teachers believed that managing instruction for learners with varied needs was difficult. Participants expressed that to differentiate instruction for students with a wide range of abilities in the same classroom was time consuming and that obstacles complicated the implementation of DI. The district's scripted curriculum and pacing guides hindered meeting learning needs based on students' readiness and interests. Participants stated that the lack of teacher experience with DI affected implementing the instructional method. Also, teachers thought that implementing DI would affect student achievement on standardized assessments. Though, some participants questioned the use of differentiated instructional strategies for raising test scores. Data revealed that even though the teachers' experiences with implementing differentiation were inconsistent, many teachers found the instructional strategy beneficial for meeting students' learning needs.

Theme 2 indicated that teachers needed instructional resources and administrative support to employ DI with fidelity. Participants believed that there was more to DI than just varying students' learning opportunities. To implement DI with fidelity, effective teaching practices must be established. Participants described their experiences about differentiating learning in their classrooms. A consensus emerged from the data about the

need for additional leveled learning materials and computers to access digital resources to differentiate instruction to each students' needs. Teachers believed that time was the greatest barrier.

RQ2: What are elementary reading teachers' perceptions about DI skills needed to improve their instructional effectiveness in the classroom?

Theme 3 indicated that professional development was needed to build teacher capacity. Teachers recognized that implementing DI is a process that requires developing teachers' skills by creating a school culture for teacher learning and growth. Participants described their experiences with implementing DI. Responses indicated that teachers felt the need for focused training to understand what the differentiated instructional method entailed to address the problems and needs associated with implementing DI strategies in their mixed-ability classrooms. Participants believed that teachers needed continuous and meaningful professional training in DI best practices to address students' needs effectively. In addition, teachers preferred that ample time be allowed in the schedule for them to plan appropriately and collaborate with colleagues.

Chapter 5 will restate the purpose and nature of the study. I will present the interpretation of the findings, revisit the limitations, and describe recommendations for further research. Also, the implications for positive social change and recommendations for practice will be discussed. I will end the chapter by sharing the important insights of the study.

Chapter 5: Discussion, Conclusions, and Recommendations

In this study, I investigated elementary reading teachers' perceptions about using DI in the classroom and explored what teachers believed was needed to improve the effectiveness of their practice. The problem that prompted the study was that elementary reading teachers experienced difficulty implementing differentiated instructional strategies in their mixed-ability classrooms. I conducted the study at a single site. I used purposeful sampling to select 10 participants who were the most likely able to provide rich responses to answer the research questions.

Key findings of the study revealed that elementary reading teacher participants believed that implementing DI in their classrooms would be beneficial for improving teaching and learning. Teacher participants considered time as a major barrier to implementing DI with fidelity. Teachers need appropriate planning time to design differentiated lessons to meet the needs of the diverse learners in their classroom. A lack of understanding of how to implement DI caused some teachers to use teaching strategies already in their repertoire. Also, infrequent collaboration opportunities and ineffective professional training were considered barriers to implementing DI effectively.

Interpretation of the Findings

The findings showed that the teachers' descriptions of DI corresponded with the research literature. The teachers described DI as modifying the curriculum to meet students' skills and varied learning needs. That description reflects Tomlinson's (2014) and other educators' and researchers' beliefs that instruction should be based on each students' readiness and interests (Borich, 2016; Brighton et al., 2015; Dijkstra et al.,

2017; Strogilos et al., 2018). Even though the teachers had an understanding of DI, the implementation of the instructional approach presented challenges. Joseph et al. (2013) suggested that implementing DI in the classroom can be challenging even though teachers may understand the concept. Participants described their challenges associated with implementing DI in their daily practice. Teachers struggled to make it work effectively. The participants' explanations were consistent with the barriers mentioned in the literature: (a) lack of time to prepare differentiated lessons and activities (Rodriguez, 2012), (b) being overwhelmed with the diverse student needs (Grierson & Woloshyn, 2013), (c) inadequate resources (Smit & Humpert, 2012), (d) lack of administrative support (Prescott et al., 2018; Smit & Humpert, 2012), and (e) inadequate professional training (McMaster & Fuchs, 2016; West & West, 2016). The participants acknowledged that the barriers influenced the implementation of DI with fidelity.

Teachers realized that DI was not a choice and therefore had to be implemented within the boundaries mandated by the school district. Participants identified the need for additional professional development in DI best practices to improve their teaching. Participants' responses confirmed Taylor's (2015) belief that the best way to help teachers experiencing difficulty implementing DI is to revisit the basic principles and components of the instructional approach. The social environment that exists in professional development can be a major contributor to teachers' learning because of the opportunities to express and negotiate ideas as well as contribute to each other's understanding (see Bada, 2015).

Bada (2015) acknowledged that optimum student learning occurs within the social structures that teachers create in the classroom. This notion supports the constructivist view that grounded this study. Students are more likely to connect with material that is presented in a manner that engages them and where they can be successful (Tomlinson, 2016). Clark and Dumas (2015) recognized that when students directly interact with the material, interest and motivation in the activity increases. When students collaborate on an activity, they form an equal relationship toward a common goal. In a constructivist classroom, teachers and students make meaning of their learning through their experiences. In the context of a constructivist approach, teachers must understand what students know and understand and relate the existing knowledge to new content. Constructivism stresses that learners' cognitive skills increase in a social environment that is formed by their interactions with others.

Additional training in DI, along with more opportunities for collaborating with colleagues, will allow teachers to provide appropriate learning opportunities that are both social and collaborative to meet students' needs. Smets (2017) affirmed that teachers need extensive professional development and time to collaborate with colleagues to differentiate instruction effectively. Similar to Smets (2017), Scott and Palincsar (2013) maintained that collaborating with colleagues allows teachers to embrace socially shared experiences and acquire useful strategies and knowledge. Overall, even though teachers experienced challenges with implementing DI to improve students' reading scores, they considered the instructional approach essential for accommodating students with mixed abilities.

Limitations of the Study

This basic qualitative study was confined to a Title I elementary school. At the study site, reading teachers were challenged with implementing DI in mixed-ability classrooms. In Chapter 1, I considered researcher bias and sample size as possible limitations.

I used an interview protocol to obtain rich and thick descriptions from the participants about their experiences. Using the protocol minimized researcher bias. During the interviews, I asked open-ended questions to allow participants to share details about implementing DI. The participants were not coerced to share any particular response. I made sure not to imply that the interview questions required a right or wrong answer. I listened several times to each recording while reading the transcript to check the accuracy of the transcribed interview responses. Participants also confirmed the accuracy of the verbatim transcript and the interpretation of their responses through transcript validation and member checking.

Merriam and Tisdell (2016) pointed out that samples in qualitative research tend to be small to support the depth of information vital to the method of inquiry. Eligibility criteria were used to obtain a representative sample of 10 reading teachers with varied years of experience. The 10 participants provided rich responses to the interview questions. The participants provided ample responses so that data saturation was evidenced by recurring responses. Seeking additional participants would have been unnecessary.

A limitation not mentioned in Chapter 1 was the school level and core subject of the participants. Only the needs of teachers at the local elementary school were investigated. The study was limited to elementary reading teachers, which can affect transferability of the findings. Interviewing secondary teachers or teachers of other disciplines could have rendered different results.

Recommendations

All students do not learn in the same manner or share the same skills and abilities. DI allows teachers to deliver lessons on varying levels to meet students' interests and needs. Teachers at the study site experienced difficulty differentiating lessons that ensured the students would make gains on the state reading assessment. Brighton (2002) contended that differentiating instruction is complicated by the pressure to create learning experiences exclusively tied to preparation for state assessments (p. 31). Further research is warranted that examines professional training to provide teachers with practical strategies for applying differentiated lessons in reading, as well as other core subjects.

One of the challenges to creating differentiated classrooms at the study site has been in maintaining effective classroom management. Additional research that examines classroom management in relation to DI could be beneficial in creating an optimal learning environment. Teachers mentioned that students' disruptive behavior and frequent absences and tardiness hindered the teaching and learning process. Students are more likely to connect with activities that are engaging and where they can be successful. To effectively operate a classroom using DI methods, teachers must carefully select the appropriate organization and behavioral strategies. An investigation of differentiated

strategies that addresses classroom management difficulties may help teachers with reducing incidences of disruptive behavior, improving student attendance, and increasing student engagement.

Implications

As education continues to evolve, the challenge of teaching students becomes more difficult. Current best practices must be implemented to manage the growing diversity. DI has emerged as a leading instructional practice for meeting the needs of all students regardless of level or ability.

This study may contribute to positive social change by providing local educators and district leaders a deeper understanding of the use of DI as an effective instructional approach for improving students' reading achievement, potentially leading to better performance on the state standardized reading assessment. The findings may also have implications for identifying barriers to implementing DI and insight to overcoming them. On a larger scale, thick descriptions of the setting, participants' responses, and the findings of this study may be helpful to other schools working to employ differentiated teaching practices. The findings also can be used as a resource for teachers to reflect on their thoughts about differentiation and how to better improve their DI instructional practices. In addition, teacher collaboration remains an important component of successful teaching and learning. Clark and Dumas (2015) pointed out that in constructivism, there exists a connection between individual learners and their social environment that creates interdependence in the creation of knowledge (p. 2). Organizing collaborative teacher networks and learning groups can provide a foundation for

identifying teachers' belief systems about developing their teaching practices, strategy sharing, and professional development to increase teacher productivity using DI.

Conclusion

This basic qualitative study focused on investigating elementary reading teachers' perceptions about using DI in the classroom and exploring what teachers believed was needed to improve the effectiveness of their practice. DI was implemented districtwide to help improve students' literacy skills and to increase the low reading scores on the state assessment. Teachers experienced challenges that resulted in inconsistencies in implementing DI with fidelity. Findings revealed that instructional resources, administrative support, and professional development are needed to improve the implementation of DI and build teacher capacity. Teaching differently to address students' individual needs requires overcoming barriers to employ the best instructional practices (Gibson, 2011). Teachers' limited knowledge of the basics of differentiation suggested the need for additional research and training to support the sustainability and effective implementation of the instructional approach to improve students' reading achievement.

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Appendix: Interview Protocol

Thank you for your time and for agreeing to participate in this interview session for my doctoral study. My name is Cathy Davis, and I will be conducting this interview. By participating in the interview, you will provide me with the opportunity to collect information associated with my study. You are invited to participant in this study because you have at least 3 years teaching reading and have experiences and viewpoints that may be beneficial to my study about elementary reading teachers' perceptions about differentiated instruction. Please remember that your participation in this study is confidential and voluntary. The duration of this interview will be 40-60 minutes and with your consent, it will be audio recorded. By recording the interview session, I will be able to effectively transcribe the exact words that are spoken, thereby assuring greater accuracy of capturing your responses. To ensure that responses are recorded appropriately, please speak in a voice tone that is loud and clear during the interview. Do you have any questions or concerns before I begin to record?

Interview questions to address RQ1: What are elementary reading teachers' perceptions about using differentiated instruction in the classroom?

1. What does differentiated instruction mean to you?
    a. Follow-up: How would you describe your experience with DI in the classroom?
    b. Probe: How is learning the same or different for each student?

2. What is your most memorable moment about your experience with differentiated instruction?
    a. Follow-up: What stood out as the defining characteristic of that moment?
    b. Probe: How did you feel about that?
3. What specific aspects of differentiated instruction please you the most?
    a. Follow-up: Tell me about a success story with differentiated instruction.
    b. Probe: What aspects of this success story were associated with differentiated teaching?
4. What do you perceive as the main challenges to providing differentiated instruction?
    a. Follow-up: Tell me about a time that differentiated instruction proved to be a challenge.
    b. Probe: What behavior do you adopt to meet any challenges to differentiated instruction?
5. Describe any barriers you see with the implementation of differentiated instruction.
    a. Follow-up: What are your attitudes toward barriers to differentiated teaching?
    b. Probe: How do you deal with any frustrations related to these barriers?

Interview questions to address RQ2: What are elementary reading teachers' perceptions about DI training or skills needed to improve their instructional effectiveness in the classroom?

1. What skills do you need to implement differentiated learning in the classroom?
    a. Follow-up: What would be the most effective skill?
    b. Probe: How does this skill translate into effective instruction of students?

2. What type of training is needed to improve the effectiveness of differentiated instruction in the classroom?
    a. Follow-up: Tell me about your experience of effective training on differentiated instruction.
    b. Probe: What made this training effective in terms of helping students?

3. How does professional development influence your instructional practices, specifically when implementing DI in your classroom?
    a. Follow-up: Tell me how you applied lessons from professional development to implement DI in the classroom.
    b. What did you find effective in helping students?

4. How does collaboration with others influence your instructional practice when implementing DI in your classroom?
    a. Follow-up: What aspects of other teacher's methods have you applied to implement DI in the classroom?
    b. Probe: What effect has collaboration had on your knowledge of DI methods?

5. What resources would improve training in differentiated instruction?
    a. Follow-up: What limitations are there to resources to support DI training?
    b. Probe: How does this make you feel?