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Elementary Reading Teachers' Perceptions of Implementation of Differentiated Reading Instruction

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
2023

Abstract

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by

Elizabeth McLemore

MA, Auburn University, 2005

BS, Auburn University, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

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August 2023

Abstract

Reading researchers have suggested that teachers struggle with implementing differentiated instruction (DI) in the reading classroom; however, researchers have found that differentiation improves student reading achievement. The purpose of this basic qualitative study was to examine reading teachers' perceptions of implementing DI in the reading classroom and the support needed for the improved use of DI. The conceptual framework supporting this study comprised Tomlinson's DI model and Vygotsky's social learning theory. The research questions focused on the reading teachers' perceptions of using DI and the support needed for the improved use of DI. Semistructured interviews were used to gather the perceptions of 10 reading teachers. Emergent themes were identified through open coding and analysis, and the trustworthiness of the findings was addressed through member checking and thick descriptions. The results showed that teachers believe that: (a) DI has positive student benefits despite implementation challenges, (b) the driving force of DI is through a whole child approach, (c) a clear vision for DI with additional personnel would improve the use of DI, (d) targeted DI training is needed to improve the use of DI, and (e) prioritizing time within the instructional day to implement DI and planning time to develop detailed lesson plans focused on students' needs would improve DI implementation. This study may contribute to positive social change by encouraging administrators to provide targeted professional development opportunities to assist elementary reading teachers in planning reading instruction that effectively improves student reading achievement.

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Dedication

This study is dedicated to my husband, Nick. Through this journey you provided me with the encouragement and the time needed to complete all the requirements. I also want to dedicate this to my children, Austin and Blake. Completion of this educational journey is an example of the importance of education and perseverance. Finally, I want to dedicate this dissertation to my mom, Betsy. You have always encouraged me and believed in me, which allowed me to accomplish so much in life. Without your continuous encouragement, I would not have become the woman and teacher I am today.

Acknowledgments

I would like first to acknowledge Dr. Ellen Scales, my mentor and chairperson, for her dedication and support. Dr. Scales met with me weekly to provide timely feedback and encouragement to help me progress through the journey. Her knowledge and guidance were invaluable and greatly enhanced my study. I also thank Dr. Donna Brackin for acting as my committee member. She provided valuable assistance in strengthening my study. Lastly, I would like to thank my colleagues at work who served as my cheerleaders throughout the process.

Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Reading researchers have suggested that differentiated instruction (DI) improves student reading achievement (Deunk et al., 2018; Förster et al., 2018). However, researchers have also found that teachers indicate they struggle with implementing DI in the elementary reading classroom (Ismajli & Imami-Morina, 2018; Moosa & Shareefa, 2019; Strogilos et al., 2020). Tomlinson (1999, 2014) defined DI for the literacy field, as the teacher's initiative-taking response to learner needs. Though no federal law requires DI, the Every Student Succeeds Act encouraged states to adopt personalized learning within state legislation (U.S. Department of Education, 2015). Bishop et al. (2020) defined personalized learning as a partnership between the teacher and the student in personal learning design based on the student's interests, questions, needs, and preferences to foster self-directed learning.

Teachers can differentiate through content, process, product, and learning environment. Content addresses what students need to learn, and teachers who differentiate content utilize data to determine what students already know and what they need to learn (Tomlinson, 1999). Content is how students become acquainted with information, such as texts, videos, speakers, or demonstrations (Tomlinson, 1999). Process differentiation is the activities students encounter to learn the material, such as learning centers, leveled text, or various levels of support from the teacher or peers (Tomlinson, 1999). Products are how students demonstrate an understanding of the content and can be differentiated by giving students choices on ways to demonstrate knowledge, such as a speech, demonstration, or written essay (Tomlinson, 1999).

Differentiation in the learning environment allows for a safe space for various learning styles to flourish. Some students may need opportunities to collaborate, while others need time to process material independently. Teachers must also differentiate materials from multiple cultures and home settings within the learning environment (Tomlinson, 1999).

Differentiation should also consider the student's readiness, interests, and learning profile. Readiness addresses a student's entry point relative to a particular understanding or skill (Tomlinson, 1999). Interest is a child's affinity, curiosity, or passion for a specific topic or skill (Tomlinson, 1999). Learning profile is how students learn, and it may be shaped by intelligence preferences, gender, culture, or learning style (Tomlinson, 1999).

Researchers have shown teachers struggle to consistently implement all four components of DI (i.e., content, process, product, and learning environment) in the elementary reading classroom. Ismajli and Imami-Morina (2018) and Strogilos et al. (2020) found that teachers are only consistently differentiating by product, which are ways for students to demonstrate understanding. Brigandi et al. (2019) discovered that even after extensive DI professional development, teachers struggled to differentiate content based on students' interests. Teachers also struggled to implement learning environment differentiation beyond allowing students to move through learning centers (Brigandi et al., 2019). Without addressing all four components of DI, the full benefits of this conceptual framework may not produce the most optimal results.

Deunk et al. (2018) revealed that class differentiation beyond homogenous grouping positively affected student achievement. Homogenous grouping is grouping students by similar academic abilities or learning styles. The researchers found that

grouping students with similar academic skills does not provide as many peer learning opportunities as a heterogeneous grouping. Vygotsky (1978) emphasized the importance of social learning and learning from a more able partner. Students grouped with other students who have the same language and reading skills are not as likely to grow as students who are placed in mixed ability groups (Deunk et al., 2018). Mixed ability grouping or heterogeneous groups allows lower achieving students to listen to a more capable peer, while the more advanced student can verbalize their understanding solidifying their knowledge. DI enables students with various academic abilities and learning styles to collaborate because of the differentiated content, process, and product planned by the teacher (Deunk et al., 2018).

Förster et al. (2018) found that students who received progress-monitored assessments with DI showed higher growth in reading fluency. Reading fluency is the child's ability to read with an appropriate rate, accuracy, and expression. The researchers reported that by regularly assessing a student's progress on a particular skill, teachers can get a sense of the student's current level and what they need to work on; this information can be used to provide targeted instruction to the student. If a student struggles with a particular skill, progress monitoring can help identify the specific areas of difficulty, which can help the teacher to provide more targeted support to the student. By regularly monitoring a student's progress, teachers can adjust the student's instruction as needed. For example, if a student is not progressing on a particular skill, the teacher may need to adjust the difficulty level or try a different teaching approach. Progress monitoring can also be used to provide students with regular feedback on their progress, which can

motivate them and give them a sense of ownership over their learning. Overall, progress monitoring is a useful tool for teachers using DI in their classrooms. By regularly assessing a student's progress and using that information to make decisions about their instruction, teachers can more effectively meet the individual needs of their students.

The purpose of this study was to understand elementary reading teachers' perceptions about implementing DI in the reading classroom and the support needed for the improved use of DI. For this study, perceptions were defined as a way of thinking about a topic or the impression one has of a topic (see Collins, 2020, para. 1). This study may contribute to positive social change by providing an understanding of elementary reading teachers' challenges in implementing DI and the support needed to improve these obstacles. This study may also add to the field of reading instruction by building an argument for instruction that is based on students' learning styles and learning preferences (see Uysal & Tezel, 2020).

In Chapter 1, I describe the study's components, including the problem statement, the purpose of the study, the research questions, and the conceptual framework (see Tomlinson, 1999; Vygotsky, 1978). The DI model (Tomlinson, 1999), implementation, and strategies are the focus of each section. I also present the research design, methodology, and the study's scope and delimitations.

Background

Elementary classrooms across the United States continue to face the challenges of meeting the needs of a classroom of students with various readiness levels, learning styles, and interests, while addressing the same state standards (Zhang et al., 2020).

Teachers are tasked with managing the state standards while meeting the needs of both high- and low-achieving students in the same classroom. Teachers come into education knowing how to teach content but lack the skills to differentiate, implement, and collect data on academic and behavioral interventions (Miranda et al., 2018). The Every Student Succeeds Act of 2015 led to all states adopting new and more challenging content standards for kindergarten to Grade 12 education to prepare students for college or careers upon graduation (U.S. Department of Education, 2015). These standards require a higher level of thinking and literacy skills. Desimone et al. (2019) stated that a lack of improvement in current reading assessment results continues to raise concerns about reading achievement in the United States. Reading achievement is the student's ability to use skills needed to read grade-level material fluently with comprehension (National Center for Education Statistics, 2022). The National Center for Educational Statistics (2022) showed a downward trend in reading achievement for fourth-grade students across the past three administrations: In 2012, overall scores were 221, decreasing to 220 in 2020 and then to 217 in 2022. The most recent administration of the National Assessment of Education progress demonstrated the devastating impact of the COVID-19 pandemic on students' reading achievement.

DI has been credited with improving the reading achievement of a heterogeneous group of students (Deunk et al., 2018; Förster et al., 2018; Gumpert & McConnell, 2019; Karst et al., 2022; Prast et al., 2018; Puzio et al., 2020). Heterogeneous classrooms include a wide range of academic abilities within one classroom. Although DI strategies were introduced over 20 years ago by Tomlinson (1995), researchers have continued to

support the need for understanding teachers' perceptions of implementing DI and the challenges they face (Bondie et al., 2019; Deunk et al., 2018; Ehlert et al., 2022; Förster et al., 2018; Goddard & Kim, 2018; Griful-Freixenet et al., 2020; Prast et al., 2018; Puzio et al., 2020; Wexler et al., 2018). Bondie et al. (2019) recommended further research on teachers' perceptions of when DI is used within a unit and how DI differs across grade levels and subject areas. Deunk et al. (2018) and Wexler et al. (2018) called for developing an understanding of how teachers utilize DI to address cooperative learning, assessments, remedial instruction, and flexible grouping. Ehlert et al. (2022) suggested examining teacher perceptions of the benefits and effects of DI. Förster et al. (2018), Prast et al. (2018), and Puzio et al. (2020) stated that further investigation is needed to understand how teachers use data to drive decisions for DI. Goddard and Kim (2018) recommended investigating how teachers use collaboration to drive DI instruction, while Griful-Freixenet et al. (2020) stated that there was a need for understanding teachers' perceptions of the DI conceptual framework. In this study, I investigated elementary reading teachers' perceptions of implementing differentiated reading instruction and strategies and the supports they believe are needed for improving the implementation.

Problem Statement

The problem I addressed through this study was that a gap in practice existed between reading research that suggested DI improves student reading achievement (Deunk et al., 2018; Förster et al., 2018) and reading teachers who find differentiating reading instruction challenging to implement (Ismajli & Imami-Morina, 2018; Moosa & Shareefa, 2019; Strogilos et al., 2020). Tomlinson (2014) defined DI as the teacher's

initiative-taking response to learner needs. Teachers can differentiate through content, process, product, and environment according to the student's readiness, interests, and learning profile. Förster et al. (2018) demonstrated that effective DI showed statistically significant improvement in achievement levels in reading fluency. In a meta-analysis, Deunk et al. (2018) concluded that DI had a positive effect on student academic performance in reading when the practice was part of a computer-assisted program or school reform to implement a DI model, not just simply grouping students homogenously by levels.

Teachers acknowledge that DI implementation in the elementary classroom is challenging. Ismajli and Imami-Morina (2018) found that teachers' perceptions demonstrated they understand the importance of DI but often only focus on the differentiation of products and less on the differentiation of content. Teachers who do not use DI of content, process, product, and learning environment could reduce student achievement.

Researchers reported on various challenges teachers face when implementing DI (Arnaiz Sánchez et al., 2019; Brevik et al., 2018; Dack, 2019; Deunk et al., 2018). Van Geel et al. (2019) posited that DI is a complex teaching skill that teachers do not feel prepared for and have not mastered. Bondie et al. (2019) and Doubet et al. (2018) found inconsistent models, definitions, and misconceptions of DI used in teaching practices in the elementary reading setting. Prescott et al. (2018) concluded that challenges of DI in the general education setting occurred when students needed skills well below or well above grade level. The researchers presented an example of a fourth-grade student

performing at a first-grade level who needed phonological awareness instruction. According to Prescott et al., the fourth-grade teacher will likely not have the necessary experience to teach this entry level reading skill typically mastered in kindergarten or first grade.

Valiandes and Neophytou (2018) suggested that further examination of how teachers' beliefs impact DI is needed. Additionally, Goddard and Kim (2018) recommended that further research is needed to understand how collaboration supports improving DI, and Deunk et al. (2018) encouraged further investigation to understand the effects of DI practices combined with support systems.

Purpose of the Study

The purpose of this basic qualitative study was to understand elementary reading teachers' perceptions of implementing DI in the reading classroom and the support needed for the improved use of DI. In this study, I focused on the perceptions of elementary reading teachers who were currently implementing DI. Semistructured interviews assisted me in gathering and understanding teachers' perceptions of the challenges they face and the support they believe is needed to improve implementation (see Ravitch & Carl, 2021). Participants' perceptions may inform the larger literacy field of the challenges teachers encounter when implementing DI and offer suggestions for support to improve DI implementation to meet the needs of all students in an elementary reading classroom.

Research Questions

In this basic qualitative study, I addressed kindergarten through fifth-grade reading teachers' perceptions of implementing DI in the reading classroom and the support needed for improving DI. Teachers' perceptions of the benefits and challenges of DI can help highlight factors influencing teachers' pedagogical decisions within the DI conceptual framework (Pyle et al., 2018). I created the study's research questions to identify the personal experiences of elementary teachers who use DI in the reading classroom. Their answers revealed to what extent each of the components from Tomlinson's (1999) model are used. The research questions aligned with the conceptual framework through corresponding interview questions that addressed the four components of DI: content, process, product, and learning environment. The following research questions guided this study:

Research Question 1 (RQ1): What are elementary reading teachers' perceptions of implementing DI in the classroom?

Research Question 2 (RQ2): What are elementary reading teachers' perceptions of support needed for greater use of DI?

Conceptual Framework

The conceptual framework that supported this study comprised Tomlinson's (1999) DI model and Vygotsky's (1978) social learning theory. In social learning theory, Vygotsky created the zone of proximal development (ZPD) to describe the conditions students can learn independently when provided the appropriate scaffolds. Tomlinson's model of DI was developed using Vygotsky's ZPD by addressing various student

learning needs within the context of what they are ready to learn. Tomlinson's model includes four classroom DI strategies: content, process, product, and the learning environment. The conceptual framework shows a logical connection between Tomlinson's model of DI and Vygotsky's theory. Teachers who utilize and apply Tomlinson's theory can better determine the students' ZPD (see Vygotsky, 1978). Understanding ZPD allows teachers to implement appropriate scaffolds to support student learning. The definition of DI includes both Vygotsky's theory and Tomlinson's model, including the concepts of ZPD, scaffolding, and responsive teaching utilizing student needs relevant to understanding.

A conceptual framework composed of Vygotsky (1978) and Tomlinson (1999) was aligned with the purpose of the study, research questions, and interview protocol. The conceptual framework guided the purpose of the study, which was to understand the perceptions of elementary reading teachers regarding implementing DI and what they need to improve the use of DI. The research questions aligned with the conceptual framework because I created them to explore critical components of ZPD from Vygotsky's theory and Tomlinson's model of DI. In the first research question, I asked what elementary reading teachers perceive about implementing DI in the classroom, and the answers revealed to what extent each of the components from Tomlinson's model was utilized. Furthermore, the interview protocol was driven by the conceptual framework. The interview questions helped me understand teachers' perceptions of meeting students' individual needs through DI and if teachers consider ZPD when developing instruction. With the interview questions, I asked for teachers' perceptions on

the ways they describe and define DI, how DI improves students' reading progress, how they thought about DI during lesson planning, and the challenges and support they believe are needed to improve the use of DI.

Nature of the Study

In this study, I employed a basic qualitative research design. Ravitch and Carl (2021) explained that qualitative research aims to understand how people view, approach, and make meaning of their experiences. This approach was consistent with my focus on understanding elementary reading teachers' perceptions on implementing DI in the reading classroom and what support they need to improve the use of DI strategies. I conducted semistructured interviews with 10 elementary reading teachers who were currently using DI in their classrooms. This study's findings may help researchers understand teachers' perceptions of what strategies increase students' reading achievement.

Definitions

Content: What students need to learn. Teachers who use DI for content utilize data to determine what students already know and what they need to learn. Content is how students become acquainted with information, such as text, videos, speakers, or demonstrations (Tomlinson, 1999).

Differentiation: The teacher's proactive response to learner needs (Tomlinson, 2014).

DI: How a teacher differentiates instruction through content, process, product, and environment according to the student's readiness, interests, and learning profile (Tomlinson, 2014).

Environment: Allowing for a safe space for various learning styles to flourish. Some students may need opportunities to collaborate, while others need time to process material independently. Teachers must also differentiate materials from various cultures and home settings within the learning environment (Tomlinson, 1999).

Interests: A child's affinity, curiosity, or passion for a particular topic or skill (Tomlinson, 1999).

Learning profile: How students learn. It may be shaped by intelligence preferences, gender, culture, or learning style (Tomlinson, 1999).

Personalized learning: A partnership between the teacher and the student in personal learning design based on the student's interests, questions, needs, and preferences to foster self-directed learning (Bishop et al., 2020).

Process: The activities students encounter to learn the material, such as learning centers, leveled text, or various levels of support from the teacher or peers (Tomlinson, 1999).

Product: The ways that students demonstrate an understanding of the content. Products can be differentiated by giving students choices on ways to demonstrate knowledge, such as speech, demonstration, or written essay (Tomlinson, 1999).

Readiness: A student's entry point relative to a particular understanding or skill (Tomlinson, 1999).

Reading achievement: The student's ability to use skills needed to read grade-level material fluently with comprehension. These achievement levels are broken down into basic, partial mastery of fundamental skills; proficient, solid academic performance and demonstrated competency over challenging subject matter; and advanced, superior performance beyond proficient (National Center for Educational Statistics, 2022).

Social constructivism: Social interactions among humans are the frameworks through which humans communicate and understand reality. Social constructivism is applied in education through the collaborative nature of learning. Students learn from each other and educators to construct their understanding of the topic (Vygotsky, 1978).

ZPD: "The distance between the actual developmental levels as determined by the ability to problem solve independently and problem solve under adult guidance or collaboration with a capable peer" (Vygotsky, 1978, p. 86).

Assumptions

In this study, I assumed all teachers participating would share their honest perceptions of using DI and the support they need. I also assumed participating teachers had implemented DI in their reading classrooms. Another assumption was that all interviewees' willingness to participate was based on their desire to improve the quality of education and their interests in the study. My final assumption was that the basic qualitative research design was the best way to address the research problem and questions.

Scope and Delimitations

This study's scope was to investigate teachers' perceptions of DI and the support they need to implement it in the elementary reading classroom. Reading achievement in the United States continues to show meager proficiency rates (National Center for Education Statistics, 2022). DI is a strategy that has been shown to improve students' reading achievement (Deunk et al., 2018; Förster et al., 2018).

Bloomberg and Volpe (2018) stated that delimitations define the study's parameters and are within the researcher's control. Delimiting factors for this study included choosing the research purpose, population, participants, and conceptual framework. The research problem helped me to understand teachers' perceptions of DI and supports needed for DI in the elementary reading classroom. In this study, I focused on teachers using DI only in the elementary kindergarten through the fifth-grade reading classroom. This study was grounded in Tomlinson's (1999) DI model and Vygotsky's (1978) social learning theory.

Limitations

I had several limitations to consider in this study. Transferability was impacted because the study was conducted with 10 teachers and only focused on DI in the elementary reading classroom. The results do not represent the perceptions of all elementary reading teachers across the United States. The small sample size did not lead to generalizability but could be replicated to discover common themes across demographics. I addressed this limitation by including thick descriptions in the research results and comparing results with those of previous research. The research report also

included a detailed report of the participants, including the number of participants, the number of years each participant reported being in education, each participant's current position, the number of years in that current position, their number of years in elementary reading, and all the grade levels taught by the participant.

As a former special education teacher, I have my own biases toward DI and how it should be used in an elementary reading classroom, which was another limitation. Using an interview protocol and asking open-ended questions minimized the influence of research bias. I also used a reflexive journal to monitor my biases and analysis before, during, and after data collection. This journal is where I noted my thoughts about participants' comments and my ideas after each interview for review throughout the analysis process.

Significance

This study is significant because it addresses a gap in practice between research-based DI findings and current instructional practices in elementary reading classrooms (see Ismajli & Imami-Morina, 2018; Moosa & Shareefa, 2019; Strogilos et al., 2020), which is significant because it may increase teachers' awareness of additional DI best practices as they reflect on what the study participants reported are best practices in the elementary reading classroom.

This study has the potential to impact teachers by revealing to educational leaders the support teachers need to improve the implementation of DI in the elementary reading classroom. Enhanced performance of DI has the potential to positively impact student achievement. This study also has the potential to affect social change by providing the

opportunity for all learners in the elementary reading classroom to improve their overall achievement and reading proficiency.

Summary

The problem that drove this study was the gap in practice that exists between reading research that suggested that DI improves student reading achievement (Deunk et al., 2018; Förster et al., 2018) and the practices of reading teachers who find differentiating reading instruction challenging to implement (Ismajli & Imami-Morina, 2018; Moosa & Shareefa, 2019; Strogilos et al., 2020). The conceptual framework was composed of Tomlinson's (1999) model of DI and Vygotsky's (1978) social learning theory. I conducted semistructured interviews to collect and understand elementary reading teachers' perceptions of implementing DI and support needs for improvement. The study's positive social change implications include improving school leaders' understanding of teachers' perceptions of implementation of DI and the supports needed for implementing DI, which could lead to improved student achievement and reading proficiency.

In Chapter 1, I provided the context of the study, identified the research objectives and questions, and described the limitations of the study. In Chapter 2, I will present a review of the existing literature used to determine the critical components of DI in the elementary reading classroom.

Chapter 2: Literature Review

The problem addressed in this study was a gap in practice that exists between reading research that has suggested that DI improves student reading achievement (Deunk et al., 2018; Förster et al., 2018) and the implementation of reading teachers who find differentiating reading instruction challenging to implement (Ismajli & Imami-Morina, 2018; Moosa & Shareefa, 2019; Strogilos et al., 2020). In this basic qualitative study, I examined elementary reading teachers' perceptions about implementing DI in the reading classroom and the support needed for the improved use of DI. In this chapter, I begin by describing the search strategy used to review the literature. Next, I present the conceptual framework grounding this study, which is followed by a review of the extant literature on DI, differentiation in elementary classrooms, teacher beliefs and perceptions, and supports to improve DI implementation. I conclude the chapter by discussing critical reading DI strategies for elementary students presented in the literature.

Literature Search Strategy

I searched the literature on reading achievement and DI using the Walden University Library, the Google Scholar search engine, and books from my professional library. Databases accessed through the Walden University Library included Academic Search Complete, EBSCOhost, Education Research Complete, Education Resources Information Center, Education Source, SAGE journals, ProQuest Central, and Walden Dissertations. Keywords used for the initial search included *differentiated instruction, differentiation, personalized learning, individualized instruction and learning, achievement, barriers or challenges, professional development or education, Carol*

Tomlinson, and *teachers' perceptions*. Additional searches included *teacher quality, qualitative study,* and other topics. Resources used to explore the topic of differentiation included scholarly journals, books, dissertations, and other print and electronic materials. I searched for peer-reviewed articles published between 2018 and 2022. Most of the literature reviewed was published within the past 5 years; however, some seminal literature that was published over the past 30 years was also included because it contributed to this study's foundation. I mined the reference lists from relevant articles for additional resources to broaden my search. I also used Google Scholar alerts for DI in the English language arts classroom and elementary DI. All pertinent articles published were sent to my Walden University email inbox for review. When my search no longer produced additional relevant information, I determined that I had reached saturation for my literature review.

Conceptual Framework/Theoretical Foundation

This basic qualitative study's conceptual framework comprised Vygotsky's (1978) theory of social constructivism and Tomlinson's (1999) DI model. In social learning theory, Vygotsky asserted that learning occurs through a social process between the learner and the support of a more advanced partner, such as a teacher, peer, or parent. Tomlinson (2014) defined DI as how a teacher differentiates instruction through content, process, product, and environment according to the student's readiness, interests, and learning profile. To best support students in elementary reading classrooms, teachers must understand and apply concepts from both Vygotsky's social learning theory and Tomlinson's (1999) DI model.

Teachers must understand the ZPD from Vygotsky's (1978) theory to provide the appropriate scaffolds needed for students to reach the next level of learning on a topic. The ZPD refers to the range of skills or knowledge that a learner can acquire with the help of a more knowledgeable or capable other, such as a teacher or peer mentor. The idea is that a learner's potential for development is greatest when working on tasks slightly beyond their current level of mastery but not so difficult that they become frustrated or discouraged. Working within the ZPD allows learners to stretch their abilities and progress with the support of more capable others, ultimately leading to increased independence and self-regulation. Wood et al. (1976) defined scaffolds as the teacher's ability to enable "a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts" (p. 90). Teachers who utilize Tomlinson's (1999) DI model plan instructional scaffolds with students' readiness levels, interests, and learning profiles. The conceptual framework used in this study drove the qualitative research design, study methods, and interview questions.

Vygotsky's (1978) social learning theory and ZPD are interwoven in Tomlinson's (1999) DI model. Tomlinson introduced a tool called the *equalizer*, which guides teachers in providing the appropriate scaffolds for a student's ZPD development, so they are always provided the correct amount of challenge in reaching the next level of understanding. For example, in an elementary reading classroom, the teacher could utilize the tool to provide tiered scaffolds to meet students at a foundational level of knowledge and help move them to a more advanced level. Students whose readiness level indicates the foundational level may receive the text broken into small chunks and be provided

with text-based questions. In contrast, more advanced students may use an open-ended graphic organizer and anchor charts posted in the room to demonstrate their understanding of the text.

Akpan et al. (2020) discussed the positive implications of utilizing the social constructivism approach in education, stating that through social interactions, students are encouraged to participate in developing new understanding actively. A classroom that uses the social constructivist approach will stimulate student interest, leading to material retention and higher self-esteem levels. The social constructivist approach also aids in students' ability to communicate new ideas and collaboratively approach problem solving.

Literature Review Related to Key Concepts and Variable

In the scholarly literature review, I identified relevant information that supported the research questions. As I read primary and secondary sources, I looked for common themes in the literature and sorted the data into four main categories: DI, differentiation in elementary classrooms, teacher beliefs and perceptions, and supports to improve DI implementation.

DI

Tomlinson (2014) stated that teachers plan differentiation of curriculum, instruction, and assessment based on student data to modify content, process, product, and learning environment and that these instructional decisions are based on students' readiness, interests, and learning profiles. Handa (2019) asserted that DI provides students with options for learning information, synthesizing ideas, and expressing what

they have learned in various ways. A teacher who differentiates instruction addresses students' unique qualities and needs; utilizes assessments to tailor instruction; plans instruction from learning targets; provides various avenues for students to take in, process, and demonstrate understanding; provides various grouping opportunities; provides scaffolds and challenges; builds a learning community; and establishes a welcoming, safe learning environment (Suwastini et al., 2021; Tomlinson, 2014; Vargas-Parra et al., 2018).

There are several benefits to using DI. Smale-Jacobse et al. (2019) revealed a positive effect on student achievement when using differentiation. Ismail and Al Allaq (2019) and Magableh and Abdullah (2020) reported that DI could improve classroom management and the environment by increasing student engagement. Vargas-Parra et al. (2018) echoed these findings by stating DI increases student-teacher engagement by the teacher acting as the facilitator of knowledge while providing learning opportunities constructed around student needs and interests. Alavinia and Viyani (2018) found that DI can lead to more realistic and practical learning achievement because of the attention given to individual preferences. DI is beneficial in increasing engagement, motivation, and flexible instruction, and in improving students' self-awareness, responsibility, and collaboration opportunities (Suwastini et al., 2021). Alavinia and Viyani and El-naggar and El-halim (2019) demonstrated that teachers utilizing DI activities could increase students' reading comprehension, communication, listening comprehension, vocabulary usage, and overall literacy skills.

Differentiation by Content

Teachers plan for content differentiation by understanding students' current readiness levels to determine if students need remediation of content, on-level instruction, or acceleration of target objectives (Brandwagt & Lynam, 2021). Examples of content differentiation for students who need remediation include providing background information or prerequisite skills for the learning target. Advanced students who have mastered the content based on pretest assessments may require advanced, complex, or abstract reading materials to demonstrate growth. Other content DI for advanced learners includes using topics outside the general curriculum or higher levels of revised Bloom's taxonomy of learning objectives (Brigandi et al., 2019). Revised Bloom's taxonomy includes six verbs arranged in a hierarchy of cognitive skills: remember, understand, apply, analyze, evaluate, and create (Radmehr & Drake, 2019). Educators can use the verbs at each level of revised Bloom's taxonomy to describe the learner's thinking processes and differentiate the level of understanding required by the learner. Smale-Jacobse et al. (2019) demonstrated that differentiation of content had a positive effect size on student achievement.

Differentiation by Process

Process differentiation is the teacher's planning of how students learn the content (Tomlinson, 2014). Differentiated process activities allow students of all abilities to demonstrate and access the critical content, skills, and concepts while participating in authentic learning activities in which their existing knowledge can be highlighted and expanded (Bagot & Latham, 2019). Some examples of process differentiation to address students' learning styles include audio text for auditory learners; visual materials, such as

graphic organizers for visual learners; or interactive, hands-on activity for kinesthetic learners (Suwastini et al., 2021). Differentiation of process can also include the pacing of instruction. For example, students who need more time may approach the content slower, along with scaffolds to support mastery. In contrast, others may skip unnecessary practice activities and participate in more complex tasks. Remedial strategies for process differentiation may include direct instruction of material, lower reading level materials, and additional scaffolds provided by the teacher or a more advanced peer (Gumpert & McConnell, 2019). Advanced strategies for differentiation of process include using open-ended questions, tasks requiring varying levels of thinking, and opportunities for student discovery (Brigandi et al., 2019). Connor (2019) asserted the importance of the instruction matching the child's level of reading competence.

The use of scaffolds is a vital component of process differentiation, and teachers may use planned scaffolds or interactional scaffolds (Johnson, 2019). The teacher determines planned scaffolds before instruction. Examples of planned scaffolds may include a guided preview of the text and vocabulary, using visuals or media, and providing students with exemplar work samples (Johnson, 2019). Interactional scaffolds are the supports provided during instruction (Johnson, 2019). Examples of interactional scaffolds include wait time to encourage student thought process, oral support to extend a student's understanding or expand on the student's idea, and modeling academic language. The critical difference between planned scaffolds and interactional scaffolds is whether the scaffold is planned or based on a student's needs in the moment.

Differentiation by Product

Teachers must continuously evaluate student performance to determine appropriate grouping (Doubet et al., 2018; Roiha & Polso, 2021). Teachers must also differentiate the products or ways for students to demonstrate an understanding of the learning target, and these activities should be guided by the student's interests, readiness for a challenge, and learning profile (Tomlinson, 2014). Products can be differentiated by how the assessment is administered, providing various product choices for students to create differentiated difficulty through different requirements (Subekti, 2020), providing manipulatives, allowing self-selected and personal reading materials, and using technology to facilitate DI (Roiha & Polso, 2021). Differentiation of product should utilize the social constructivist approach when discussing a topic through various activities, such as debate, think-pair-share, role play, brainstorming, or field trips (Akpan et al., 2020). Critical thinking, research, and communication skills are developed through social interactions.

Product differentiation should account for various levels of achievement in the classroom by providing the appropriate amount of challenge (Brigandi et al., 2019). Remedial differentiation allows students to use various technologies to demonstrate knowledge, use choice boards, and provide grade-level and individual learning goal rubrics (Gumpert & McConnell, 2019). Differentiation of product for advanced learners involves complex and abstract thinking presented to an authentic audience (Brigandi et al., 2019). A vital component of the differentiation of product, regardless of ability, is student choice with opportunities to explore a variety of product types (Brigandi et al., 2019).

Preassessments are tools teachers can use to determine students' mastered skills before beginning a unit to inform instructional tasks to meet the learners' needs (Doubet et al., 2018; Karst et al., 2022). Preassessments provide teachers insight into the class and individual learner's knowledge of the learning target (Roiha & Polso, 2021). Preassessments provide classroom data on students' thinking and skills, specifically about the upcoming learning target. Preassessments allow teachers to make units and lessons more focused, engaging, and worthwhile for all students (Ismajli & Imami-Morina, 2018; Ortega et al., 2018).

Preassessments can be conducted in several ways, including group discussions, written assignments, checklists, or mind maps (Roiha & Polso, 2021). Though there are no required question types for preassessments, Doubet et al. (2018) suggested establishing the learning targets for the unit before the development of the preassessment; determining background knowledge required for the unit; asking questions that can distinguish students who genuinely understand and those who do not; and arranging items in a logical progression, beginning with the most engaging type of question. Ultimately, the overall goal of the preassessment is for the teacher to utilize the information to provide targeted learning plans to meet the classroom's needs.

Preassessments should include a preview of the unit's core concepts, so students have some background knowledge and the ability to show their readiness for the content and skills (Doubet et al., 2018; Roiha & Polso, 2021). Background knowledge of the content is essential for improved reading achievement (Smith et al., 2021). Teachers should include student surveys to allow students to state their learning preferences for

potential unit activities. Giving choices for activities, such as reading authentic documents, watching videos, doing a project, or writing, allows the teacher to differentiate by interest with process and product activities (Gumpert & McConnell, 2019). Teachers can return students' preassessments at the end of the unit to allow students to revise their responses based on their new understanding and reflect on their growth.

A preassessment for differentiation is conducted to gather evidence of students' readiness, interests, and learning preferences before beginning a unit and then use the results to develop differentiated lessons (Roiha & Polso, 2021; Suwastini et al., 2021). Preassessments should articulate the unit learning targets and provide any necessary background knowledge and vocabulary. Preassessment questions should be created to determine students' understanding of the big overarching ideas of the unit. Finally, preassessment answers should be analyzed for patterns to inform differentiated content, process, and product activities.

The benefits of preassessments are to direct the focus on essential skills needed for mastery of content, inform the teacher of common misconceptions, inform the teacher of students who already understand the topic, and provide ideas for lessons developed around students' interests (Doubet et al., 2018; Peters et al., 2022). Karst et al. (2022) revealed that data-driven DI showed significant achievement gains for both higher and lower achieving students. Preassessments should include just a few critical questions aligned with the unit goal to discover what students understand about the topic. Preassessments should reveal the connection between the content and the students. The

use of preassessments in a differentiated classroom is vital for driving authentic learning tasks.

Formative assessments are another essential component of a differentiated classroom (Doubet et al., 2018; Roiha & Polso, 2021). The purpose of formative assessments is to provide the teacher with a snapshot of students' learning during and after lessons to gauge the next steps in planning. Dolin et al. (2018) stated that formative assessments provide students with feedback to support and guide their learning. Formative assessments should require students to demonstrate knowledge transfer to the topic or skill, show how deeply the student understands the skill, and possibly reveal misconceptions (Roiha & Polso, 2021). Formative assessments can be conducted through observations, open-ended tasks, checklists, or learning journals (Roiha & Polso, 2021). Formative assessments can be differentiated for higher level students by asking them to explain their thinking more deeply or for lower level students to use pictures rather than words, participate in an individual interview, or use a technology program (Doubet et al., 2018).

Summative assessments are evaluations of student learning that are typically used to measure the achievement of specific learning goals or objectives (Dolin et al., 2018). They are usually given at the end of a unit of instruction, course, or academic year. They are intended to provide a summary or snapshot of what a student has learned over a given period of time. Summative assessments are typically more formal and structured than formative assessments, which are ongoing evaluations of student learning used to inform instructional decisions. Summative assessments can be differentiated through various

methods, such as written essays, videos, role-plays, dramas, interviews, experiments, tests, quizzes, posters, portfolios, or group presentations (Roiha & Polso, 2021). Summative assessments are typically used to assign grades and to decide student progress or promotion.

Differentiation by Environment

Teachers must consider ways to differentiate the learning environment and motivation (Tomlinson, 2014). Differentiation of learning environment is how the classroom looks and feels. Vargas-Parra et al. (2018) discussed the importance of ensuring students feel safe and engaged in the classroom. DI can improve the learning environment in the classroom by focusing on students' learning preferences (Ortega et al., 2018). The furniture's physical design should provide individual and collaborative learning opportunities (Roiha & Polso, 2021). Also, teachers should create a safe space for learning, in which the teacher ensures welcoming materials and classroom management, respecting all different learning styles and personalities in the classroom (Cornett et al., 2020). For example, the teacher may differentiate motivational techniques or responses to student behavior (Brigandi et al., 2019).

Differentiation by Readiness

Readiness is what a student understands about a topic at a specific time (Doubet et al., 2018). Readiness is determined through assessments to assess the learner's level of understanding and misconceptions to inform the next steps for learning mastery. A way to provide readiness differentiation is through feedback (Dolin et al., 2018). Targeted feedback informs the student of important goals and next steps. Feedback can be

delivered verbally, written, or through a list of actions. Feedback requires a student to think or do something differently to move forward in progress. Specific feedback increases the student's engagement with the topic or skill.

Teachers must utilize assessments by analyzing, interpreting, and acting on the results to provide targeted feedback and make instructional decisions (Roiha & Polso, 2021). Teachers should look for assessment patterns to provide feedback to groups of students with the same misconceptions or demonstrated mastery. These patterns can guide the discussion with small groups rather than individual students.

Teachers can provide differentiated activities through tiering a process or tiering a concept. Tiering provides different levels while using the same essential knowledge and skills for a topic (Doubet et al., 2018). A teacher can tier a process for readiness based on preassessment or formative assessment. Teachers can also tier a concept by providing various levels or versions around the same concept. These levels could include different prompts, questions, resources, perceptions, or complex structures. Magableh and Abdullah (2020) posited that through DI, students could be given appropriate levels of challenge based on readiness while participating in activities that address their interests and learning profiles.

Teachers use small groups to differentiate based on assessments to review, reteach, model, clarify misunderstandings, or extend student thinking around a central topic (Doubet et al., 2018; Roiha & Polso, 2021). Students should be grouped in various ways, including academic abilities, interests, social relations, or learning preferences (Roiha & Polso, 2021). Roiha and Polso (2021) and Sirkko et al. (2020) supported using

flexible grouping and coteaching, where two staff members collaboratively plan and provide instruction. Small groups based on readiness, interests, or learning profile are not only beneficial for addressing misconceptions, but they are also providing opportunities for increased participation, engagement, and focus, while providing a chance to cultivate relationships among group participants (Ortega et al., 2018; Suwastini et al., 2021).

Teachers must be careful when differentiating to ensure respectful differentiation of tasks (Doubet et al., 2018). Students can quickly form ideas about their status in the class and develop a fixed mindset or set beliefs about themselves. All tasks must be aligned to the same goal to provide a respectful differentiated task. The task must be equally exciting and engaging from the students' perceptions. Tasks should be designed to push students to work at high levels of thought with appropriate scaffolds provided, differentiated tasks should have comparable completion workloads, and all tasks should lead to a similar closing presented to the whole group. Students should be grouped in various ways regularly to provide students with the opportunity to learn from others and reduce social barriers (Roiha & Polso, 2021).

Differentiation by Interest and Learning Style

Doubet et al. (2018) and Hebbecker et al. (2019) reported the importance of student motivation for improved reading achievement. Teachers can differentiate students' learning styles or preferences through stated interests (Griful-Freixenet et al., 2020; Stollman et al., 2019). Student motivation increases when teachers provide students with opportunities to express personal interests or learning styles, such as auditory, kinesthetic, or visual (Doubet et al., 2018). When teachers know students' interests or

learning styles, tasks can be differentiated by interest. Small groups could be formed based on common interests. For example, small groups of students could address the learning target of context clues in a reading class while using interest-driven text or different styles of demonstrating understanding. Malacapay (2019) provided examples of DI strategies to meet students' learning profiles, such as audiovisual media for those with audio learning preferences or visuals, such as graphic organizers, concept maps, or charts, for those with a preference for visual learning style. Additionally, tasks can be differentiated by time depending on student needs. Students' motivation and engagement will increase by allowing them to choose the topic or learning style they feel could demonstrate understanding (Doubet et al., 2018).

Challenges Related to DI

Tomlinson (2020) posited that a fully implemented DI classroom addresses the learning environment, curriculum, assessment, instruction, classroom student leadership, and management of routines to prepare students for life beyond school. Tomlinson asserted that although teachers value addressing student differences, few implement differentiation effectively. One major issue with full implementation of DI is there is no standard definition of differentiation nor many models of differentiation in a school or school district (Bemiller, 2019; Bondie et al., 2019; Tomlinson, 2020). Additional research showed DI challenges include increased class size (Aldossari, 2018; Altun & Nayman, 2022; Brevik et al., 2018; Shareefa et al., 2019; Suwastini et al., 2021; Uzair-ul-hassan et al., 2019; Whitley et al., 2019), school administrative support (Aldossari, 2018; Merawi, 2018; Shareefa et al., 2019;), lack of resources (Altun & Nayman, 2022;

Merawi, 2018; Shareefa et al., 2019), time constraints (Brevik et al., 2018; Suwastini et al., 2021; Whitley et al., 2019), increased workload (Suwastini et al., 2021; Vargas-Parra et al., 2018), and classroom management weaknesses (Brevik et al., 2018; Whitley et al., 2019).

Several studies revealed that teachers of various levels of experience lack the confidence to implement DI (Brevik et al., 2018; Dack, 2019; Merawi, 2018; Miranda et al., 2018; Shareefa et al., 2019). Brevik et al. (2018) discovered that teachers lacked confidence in differentiating for gifted and advanced learners. Miranda et al. (2018) found that teachers not only lack the confidence to differentiate for academic skills but struggle to differentiate for behavior and social-emotional needs. Few novice teachers are placed in student-centered classrooms with differentiation modeled, leading to a lack of confidence in implementing these styles in their classrooms (Brevik et al., 2018; Dack, 2019; Tomlinson, 2020; Whitley et al., 2019). This lack of understanding leads to novice teachers not understanding how to address student differences or how to plan for various needs, DI tasks, and assessments. Few teachers enter the profession with a clear image of a student-centered, responsive, or differentiated classroom.

Many teachers' and parents' perceptions of education come from traditional views of educating students, such as teaching is telling, students are dependent, management is about control, fair is treating everyone the same, learning is delivered through drilling skills, and assessments are used at the end of units to see who understood the content (Tomlinson, 2020). District or system mandates regarding curriculum, instructional frameworks, high-stakes testing, and grading practices often discourage DI (Altun &

Nayman, 2022; Dulfer, 2019). Teachers feel additional pressure from colleagues and parents who insist on educational structures and approaches based on tradition and familiarity (Ismajli & Imami-Morina, 2018; Tomlinson, 2020).

Researchers have demonstrated that DI driven by data improves student achievement; however, many teachers do not use this practice for various reasons (Karst et al., 2022). Shareefa et al. (2019) and Peters et al. (2022) declared that using data-based DI is time consuming for teachers, which may lead to limited use of this practice. Peters et al. stated that teachers might not readily use data-driven DI because it is often not part of teacher education programs, leading to teachers struggling to use data to drive instruction or implement DI. However, Connor (2019) posited that providing teachers with computer-based assessment tools and offering instructional materials may increase the use of data-based DI.

Technology and DI

The use of technology can improve a teacher's ability to use DI more efficiently. Connor (2019) and Prescott et al. (2018) stated the importance of utilizing technology to provide data-based DI. Technology can provide students with a personalized learning path. The use of technology allows students to have control over the content delivery, pace, time, and location of learning (Prescott et al., 2018). Prescott et al. revealed that using DI through technology improved literacy instruction for students, especially in kindergarten through second grade. Prescott et al. further demonstrated that the use of DI with the aid of technology improved the achievement of English learners by increasing

their access to personalized background knowledge on specific topics and DI approaches to content delivery.

Brain Research Related to DI

Brain research supports the use of DI. First, each brain is unique, establishing the learning profile of a student's preferences for learning, such as learning alone or in groups or learning by listening, observing, or participating (Tomlinson & Sousa, 2020). Second, the brain's frontal lobe determines if the information has meaning to the student (Sousa & Tomlinson, 2018). DI addresses learning tasks based on student preferences that will encourage new knowledge to be stored in long-term memory. The brain's frontal lobe also is responsible for higher-order thinking and problem solving (Sousa & Tomlinson, 2018). Teachers who utilize DI can assist students in becoming divergent thinkers, a process that generates creative ideas by solving problems differently (Sousa & Tomlinson, 2018). Third, a student's emotions pass through the brain's limbic system (Tomlinson & Sousa, 2020). Positive emotions release chemicals in the brain's reward system and motivate students to continue learning. Through DI, students are offered rewarding learning opportunities (Tomlinson, 1999). A fourth way DI is supported by brain research is the connection between cognitive and social learning, as presented by Vygotsky (1978). Young children learn through imitation or mirror neurons. These neurons are fired when the person experiences a task or an emotion, but also when a person observes others experiencing the same task or feeling—the social connection to learning shapes students' practices and values. Participation in constructive social interactions generates positive emotions, enhancing learning and retention. DI establishes

a constructive environment. Sousa (2016, as cited in Sousa & Tomlinson, 2018) discovered that with an increase in technology, children's brains are becoming rewired, negatively impacting their attention and memory systems, thinking-skills development, and social growth. The use of DI can provide various amounts, frequencies, and types of technology activities to individual students based on individual student needs. Since science has provided more insight into how the brain works and learns, the information reaffirms the importance of DI by providing students with authentic learning opportunities focused on student preferences in a rich, stimulating, flexible classroom.

Differentiation in Elementary Classrooms

The implementation of DI aims to ensure all students demonstrate competency in the same learning target, but may arrive through various learning paths (Doubet et al., 2018). Elementary teachers who use DI address students' unique qualities and needs, utilize assessment to drive instruction, and plan instruction from stated learning targets. Teachers also provide various ways for students to take in content, process material, and demonstrate understanding through various grouping opportunities, appropriate scaffolds, and challenges, and establish a learning community and safe learning environment (Tomlinson, 2014). Elementary teachers must ensure that tasks are engaging and authentically meaningful (Doubet et al., 2018).

In a heterogeneous classroom, there may seem to be more differences than similarities, and the teacher's job is to ensure each child feels like they belong to the group. Doubet et al. (2018) asserted that in an elementary classroom, teachers should celebrate individuals, cultivate relationships, and communicate to all students that

everyone is accepted as they are and are expected to grow. To establish a welcoming learning environment, teachers can help students discover common traits about themselves through questioning activities, affirm each other with quick cheers for successes, and allow the students to help establish class roles and responsibilities. Teachers must create safe learning environments by cultivating relationships. Students do not spontaneously reach out to others to form bonds; therefore, the teacher must lay the foundation for creating a community within the classroom. The time a teacher spends establishing a positive classroom culture at the beginning of the year will pay off throughout the school year.

An elementary teacher needs to recognize each student has strengths and areas for improvement and adjust instructional tasks accordingly (Doubet et al., 2018). A positive teaching mindset is imperative for the efficient application of DI. Teachers must believe in students' abilities to be successful. Teachers' self-efficacy leads to the successful implementation of DI, leading to student growth (Grecu, 2022). Teachers must help students see themselves as capable learners. Students must understand that all learners have strengths and needs requiring different support levels. Elementary teachers should introduce the idea of DI to students early in the school year, so students understand each person requires different levels of support.

Grouping students in a differentiated classroom is intentional and a way for the teacher to meet individual needs (Doubet et al., 2018). Teachers utilize flexible grouping organized by purposeful decisions about the group size, the students within the group, and the group's purpose. If groups remain static, students can generate inaccurate

inferences about themselves and their peers; therefore, it is imperative to keep groups fluid.

Elementary teachers are challenged to ensure students are engaged, invested, and making progress, while addressing numerous standards for multiple subject areas in a short time (Doubet et al., 2018). Elementary teachers must reduce teacher talk and increase active participation to ensure engagement and attention. Helping students connect their lives and the content increases attention and investment. One strategy for assisting students in making connections and piquing interest is through essential questions. Essential questions help students foster inquiry, understanding, and transfer learning. Teachers should be intentional about the type of questions planned to increase the complexity to facilitate students' acquisition of new knowledge (New South Wales Government, 2021).

Addressing the attention spans of younger students is essential to an elementary reading teacher's job. DI can help address the various levels of attention spans in the classroom (Doubet et al., 2018). One strategy for DI is to provide narrated wait time. A teacher using narrated wait time announces to the students there will be a wait time after each question. Narrated wait time provides students with various levels of processing speed and the opportunity to participate in the discussion.

Elementary reading teachers must address various language abilities in the classroom (Language and Reading Research Consortium et al., 2019). A strategy to provide scaffolds for students with lower language abilities is to give them controlled question choices, such as agreeing or disagreeing with a statement made by the teacher.

Then students could explain their thinking. Think-Pair-Share is another strategy that could be used in the reading classroom to engage students and provide scaffolding through peer partners (Wuryandani & Herwin, 2021). For this strategy, teachers will pose a question, ask students to think about their responses, and share their answers with a partner. Think-Pair-Share allows more students to share their thinking and to learn from one another.

Elementary reading teachers must be intentional about the level of questioning provided for students. Earlier research from Hattie (2012) and Marzano et al. (2001), as cited by Doubet et al. (2018), demonstrated that many teachers ask very low-level questions that require only recall of information without asking for explanations. Teachers must ask higher-level questions in elementary reading classrooms to increase critical thinking skills. Through differentiated leveled questions, teachers can meet students where they are instructionally (Doubet et al., 2018).

Teacher Beliefs and Perceptions

Several qualitative studies have examined teachers' perceptions of DI (Altun & Nayman, 2022; Samuels, 2018; Suwastini et al., 2021). Teachers defined DI as the teacher addressing students' diverse needs and interests through differentiation of context, materials, and activities (Altun & Nayman, 2022). Samuels (2018) revealed that teachers embrace DI and student choice. Teachers stated they used surveys to discover students' interests, skills, and backgrounds to inform the differentiation of content and instructional strategies. By appealing to students' interests and learning modalities,

teachers believe student engagement and performance improve (Altun & Nayman, 2022; Samuels, 2018).

Teachers' self-efficacy beliefs can influence instructional practices (Scarparolo & Subban, 2021). Teachers must have a core belief that students can learn but have differences, and those differences contribute to the learning process (Suwastini et al., 2021). Whitley et al. (2019) revealed that teachers are more likely to use DI with higher levels of self-efficacy for DI.

Supports to Improve DI Implementation

Successful DI requires a firm commitment from the teachers, school culture, and leadership (Magableh & Abdullah, 2020; Suwastini et al., 2021). Altun and Nayman's (2022) research revealed that teachers who reported using DI had a firm understanding of how to implement DI and had school and administrative support through an education model based on DI. DI improves with a collective vision for DI within the school community (Roiha & Polso, 2021). Ehlert et al. (2022) discovered that teachers' positive beliefs towards DI in the reading classroom were a strong predictor of DI use during instruction.

Smale-Jacobse et al. (2019) revealed that teachers rely on external support when implementing DI because this approach can be complex for teachers and require considerable guidance. Professional development and administrative and colleague support can lead to improved use of DI and student achievement (Prast et al., 2018; Puzio et al., 2020; Suwastini et al., 2021; Valiandes & Neophytou, 2018). Teachers who receive more professional development are more likely to possess higher efficacy toward DI

(Smale-Jacobse et al., 2019). Goddard and Kim (2018) and Stollman et al. (2019) discovered that teachers' implementation of DI was directly connected to collaboration with colleagues. Teachers are not likely to begin or continue using DI without support.

Effective professional development involves teachers in decision-making, self-reflection, classroom research, and collaboration (Canaran & Mirici, 2019; Valiandes & Neophytou, 2018). Additionally, teachers need differentiated professional development and time to develop DI practices (Stollman et al., 2019). Dennis and Hemmings' (2019) and Grecu's (2022) research supported the use of job-embedded professional development, showing this improved teachers' content knowledge and DI. Professional support should include content and pedagogical knowledge (Filderman et al., 2020), initial training with follow-up support, facilitation of collaboration and communication with colleagues and experts, in-class support during implementation, and development of teachers' reflection skills (Valiandes & Neophytou, 2018).

Administrative support is vital to DI implementation within the school. Leaders need to lead from a vision of the DI model, provide teachers with classroom-focused backing for an extended period, provide opportunities for teachers to collaborate, work with various stakeholders, remain committed to the change process, model DI for teachers, and establish a regular evaluation of implementation (Arnaiz Sánchez et al., 2019; Bemiller, 2019; Tomlinson, 2020).

Summary and Conclusions

DI is an educational approach that addresses student differences by providing DI in content, process, product, and learning environment (Tomlinson, 2014). Establishing a

DI classroom involves the teacher preparing instructional material addressing students' readiness, interests, and learning profiles. Though teachers acknowledge DI improves student engagement and performance, there are several challenges to utilizing this instructional approach (Ismajli & Imami-Morina, 2018; Moosa & Shareefa, 2019; Strogilos et al., 2020). In this study, I aimed to contribute to the literature on elementary reading teachers' perceptions of implementing DI and support needs for improvement.

Chapter 3: Research Method

The purpose of this basic qualitative study was to understand elementary reading teachers' perceptions of implementing DI in the reading classroom and the support needed for the improved use of DI. In Chapter 3, I present the research plans, my role as a researcher, and the process for identifying and selecting study participants. The chapter also includes a discussion of the interview protocol, data collection procedures, and the process for analyzing the collected data. In the final sections of this chapter, I establish the trustworthiness of the findings and describe how I met ethical standards.

Research Design and Rationale

In this study, I gathered the perceptions of kindergarten through fifth-grade reading teachers on implementing DI in the reading classroom and the support needed for the improved use of DI. Two research questions guided the study:

RQ1: What are elementary reading teachers' perceptions of implementing DI in the classroom?

RQ2: What are elementary reading teachers' perceptions of support needed for greater use of DI?

I used a basic qualitative research method and design for this study. Qualitative research incorporates multiple perspectives (Merriam & Tisdell, 2016). Ravitch and Carl (2021) defined and explained the meaning of qualitative research as conducting qualitative studies through interpretive and naturalistic inquiry. In addition, Merriam and Tisdell claimed that the objective of qualitative research is to understand the participants' experiences from their points of view. Qualitative researchers believe their involvement

and biases, along with the participants, shape the study's results (Merriam & Tisdell, 2016). Ravitch and Carl stated qualitative research aims to understand real life and its complexity. Qualitative research is unique because when using this approach, researchers study people in their natural setting, attempting to make sense of phenomena in terms of the meanings people bring to them (Ravitch & Carl, 2021). Qualitative research is also unique in that it approaches research from an emergent design approach, allowing the researcher to shift and refine the research to match the participants' experiences, which helps to ensure the authenticity of participants' experiences and responses (Ravitch & Carl, 2021). Furthermore, qualitative research is also described as iterative, meaning the results evolve over time with a back-and-forth process (Ravitch & Carl, 2021). This approach was consistent with the primary focus of this doctoral study, which was to understand kindergarten through fifth-grade reading teachers' perceptions on implementing DI in the reading classroom and the support needed for the improved use of DI.

To gain an in-depth picture of a topic, a researcher needs a great deal of information (Creswell & Creswell, 2017). A basic qualitative study provides the researcher with the necessary tools to study complex topics (Creswell & Creswell, 2017). Merriam and Tisdell (2016) posited that a basic qualitative design provides in-depth data to study complex phenomena. Ravitch and Carl (2021) stated that qualitative research involves a systematic and contextualized research process. Interviews and field observations are methods used in qualitative research (Ravitch & Carl, 20221). In-depth interviews have several positive aspects, including allowing for an understanding of

perceptions on topics the researcher may never have experienced, capturing changes in perceptions over time through retrospective interviews, and understanding the complexities of a phenomenon through multiple perceptions (Rubin & Rubin, 2012).

The purpose of quantitative studies is to make predictions, extend knowledge, measure change, and test new ideas (Nastasi, 2020). Quantitative studies rely on the traditions of science and statistics to test hypotheses based on deductions from existing research and theory (Nastasi, 2020). Quantitative research relies on etic perceptions based on existing theory and research (Larini & Barthes, 2018). In contrast, qualitative studies aim to understand complex phenomena; generate new ideas; examine the past; and have a personal, social, or organizational impact (Nastasi, 2020). Qualitative studies rely on verbal and visual representations through narrative, observation, or artifacts (Nastasi, 2020). Finally, qualitative research utilizes an emic perspective which allows an examination of the participants' point of view (Nastasi, 2020).

Given the focus of this study, I considered using several other research methods and designs before choosing a basic qualitative research design. I decided not to move forward with the quantitative approach because, according to Nastasi (2020), this design approach involves collection and analysis of numerical data to test hypotheses or answer research questions. The goal of a quantitative study is to identify relationships and patterns in the data and to generalize about a larger population based on the sample being studied (Ravitch & Carl, 2021). Quantitative research generally involves surveys, experimental design, and statistical analysis. I did not choose quantitative data because this study aimed to understand in-depth participants' perceptions. Through qualitative

data collection, I realized participants' feelings and opinions about DI in the reading elementary classroom and the supports they felt are necessary for improving the use of DI practices.

I considered a case study design, where the researcher examines a specific subject or group using various data collection methods, such as interviews, observations, and document analysis (see Merriam & Tisdell, 2016). In the current study, I only used data from interviews; therefore, a case study was not an appropriate design. I also considered using ethnography, in which the researcher immerses themselves through observations over an extended period with the goal of understanding the culture, practice, beliefs, and experiences of a particular group of people (see Merriam & Tisdell, 2016). This research design was not appropriate for the current study because I sought to understand teachers' perceptions on DI through semistructured interviews. I did not include observation as part of the data collection methodology.

Role of the Researcher

As the sole researcher of this study, I was responsible for gathering information and interpreting the findings. Merriam and Grenier (2019) declared that the researcher is the primary instrument for data collection and analysis in a basic qualitative study. I designed this study to interview participants outside of my current school to reduce the likelihood of personal or professional relationships with the study participants.

I have been in the field of education for the past 19 years. In those 19 years, I have served as a special education self-contained teacher, special education inclusion teacher, lead of the special education department, and reading interventionist. My roles as

a special education teacher and reading interventionist sparked my interest in developing a study about DI. I recognize some have biases formed through my experience as a special education teacher and reading interventionist. Yates and Leggett (2016) stated the importance of controlling the researcher's bias in a qualitative study that could impact the trustworthiness of the data. Bias can occur during any phase of research, in which the researcher favors a particular outcome leading to inaccuracies within the study (Creswell, 2012). According to Yates and Leggett, the researcher's intent must be clearly articulated to the participants in the study. To control sample bias, I did not recruit or interview any kindergarten through fifth-grade teachers from my school or any schools I had previously worked at within the school district. Additionally, I kept a reflective journal, as suggested by Ravitch and Carl (2021), throughout the data collection phase to monitor my positionality, biases, and values. I used an interview protocol to gather data during the interviews using open-ended questions to allow participants to provide their perceptions on DI and the support they felt is needed to support the use of DI. During the interviews, I listened and clarified as the participants shared their experiences. After the interviews were completed, I coded and analyzed the data to answer the research questions.

Methodology

Participant Selection

The study population included elementary reading teachers in grades kindergarten through fifth grade with at least 3 years of elementary teaching experience who were currently implementing differentiated reading instruction. I chose these inclusion criteria because I believed this population of teachers would be able to provide detailed

information about DI in the elementary reading classroom and the supports needed to improve the use of DI. Semistructured interviews were used to collect data to understand teachers' perceptions on the challenges they face when implementing DI in the reading classroom and the support needed for the improved use of DI (see Ravitch & Carl, 2021).

My initial goal was to recruit 12 to 15 participants who met all the inclusion criteria (see Fusch & Ness, 2015). I used purposive sampling to obtain initial participants via elementary teacher social media groups by posting the Social Media Flyer. Purposive sampling is a sampling technique used to recruit participants who are knowledgeable about the phenomenon being studied (Patton, 2015). Once the first study participants were identified, I used snowball sampling to recruit additional participants. Snowball sampling is used in qualitative research in which the researcher seeks out participants who can provide rich data (Creswell, 2012). Naderifar et al. (2017) described snowball sampling as a purposeful data collection method in which participants are selected based on their knowledge of the topic studied. Naderifar et al. further recommended using snowball sampling for research in the education field. The use of snowball sampling led to a possible limitation of this study because participants were recruited from the same geographic location and the participants were mostly teachers of Grades Kindergarten through 2. However, snowball sampling was beneficial for participant recruitment because invitations proceeded until 12 to 15 participants agreed to participate in the interview.

There is no set rule for sample size in qualitative research; however, the sample size must be considered prior to conducting research (Hennink & Kaiser, 2022). Hennink

and Kaiser (2022) suggested that small sample sizes can reveal rich findings with basic qualitative studies. Sample size depends on the inquiry of the study, the purpose of the study, what information is useful, and what information can be gathered with available time and resources (Patton, 2015). I set the minimum sample size of 12 to 15 elementary reading teachers who met the criteria for participation because I thought that number should ensure that I reached saturation during data analysis. Data saturation occurs when no new information is obtained and further coding is not necessary (Fusch et al., 2017). Although I did have 12 participants agree to participate in the study, one participant withdrew from the study prior to the interview and another participant agreed through email but then did not follow up with scheduling of the interview despite a follow-up email; therefore, the study's final number of participants was 10.

Teachers who met the criteria for participation were invited to participate in the study and complete the consent form sent to their email, which provided the criteria and details for the research study. I asked them to reply to the email within 3 days. Participants acknowledged that they met the criteria by self-selecting to participate in the study voluntarily and replied to my email with the statement, "I consent." Using the Calendly scheduling features, I was able to allow participants to schedule their interview from a range of dates and times I was available. Through Calendly, I was also able to gather general information about each participant, such as their phone number, number of years in education, their current position and number of years in that position, and the number of years and the grade levels teaching elementary school.

Instrumentation

Interviews are the most common data collection approach in qualitative research (Thelwall & Nevill, 2021). Interviewing participants allows the researcher to discover participants' feelings and thoughts (Patton, 2015). The primary method for data collection in this basic qualitative study was semistructured interviews conducted via Zoom (only the audio portion of the Zoom was recorded). Semistructured interviews are developed with several predetermined questions but allow the researcher the flexibility to ask follow-up questions to gain a deeper understanding of the topic (McGrath et al., 2019).

I used a self-developed, semistructured interview protocol (Appendix A) that included an introduction to the study and explanation of the purpose of the study and the interview along with a list of questions to use as a guide (see Lodico et al., 2010). I developed a series of interview questions to address demographic information and the research questions. The first three questions addressed demographic information, five questions addressed RQ1, and four questions addressed RQ2.

I established validity by asking three nonparticipating elementary reading teachers to review the interview questions for clarity and ensure the interview questions would elicit information with which to answer the research questions. The nonparticipating teachers provided me with positive feedback and a few small suggestions to help with wording. I also conducted a mock interview with two elementary school teachers who fit the study criteria to become comfortable with the interview protocol and the recording tool used.

Procedures for Recruitment, Participation, and Data Collection

I recruited participants from elementary teacher social media groups and participant referrals. After initial recruitment using purposive sampling, I also used snowball sampling to obtain more participants. Participants came from several different schools across the southeastern part of United States and provided a broad range of backgrounds and teaching experiences. Once I received notification from a teacher that they were interested in participating, I emailed them the Calendly link, which had the consent form for them to read, sign, and reply "I consent." The consent form described the ethical and procedural process for each potential participant. Participants also scheduled their interview from the Calendly link. I sent the participants a confirmation email and a list of interview questions the day before their interview took place.

I scheduled interviews conveniently for each participant, with no more than two interviews per day. All interviews were conducted via Zoom and audio recorded for later transcription using Otter.ai. Zoom is a cloud-based platform that allows for online meetings with a secure recording of sessions (Zoom Video Communications, Inc., 2022). I interviewed 10 elementary reading teachers with at least 3 years of elementary teaching experience who currently use differentiated reading instruction. The interviews lasted approximately 40 to 60 minutes, and the entire data collection process took 2 weeks to complete.

The semistructured interviews took place with questions designed to elicit perceptions from elementary reading teachers about their use of DI and the supports they felt are needed to improve the use of DI. Semistructured interviews are used to gather

more in-depth information from the interviewee with a set of predeveloped questions and the ability to ask follow-up questions and exploration of unexpected responses (Burkholder et al., 2020). I used the interview protocol to ensure that all interviews were conducted in a consistent manner. The protocol guided the conversation between myself and each research participant as an instrument of inquiry. The interview protocol included an introduction of myself, a review of the background and purpose of the study, participant requirements, the right to withdrawal, the approximate time of the interview, the use of audio recording, interview norms, and a closing statement. I ensured there were no questions prior to beginning the interview and obtained their permission to audio record the interview.

I established trust and rapport with each participant by being warm and engaging, so participants felt comfortable speaking with me. Throughout the interview, I paused to check for any questions they may have. I also asked clarifying questions or stated my interpretation of the participant's response to ensure I was capturing their perceptions. After the interview, I provided each participant the opportunity to provide additional information or clarify any previously discussed topic and used the closing statement on the protocol. Debriefing procedures reminded participants of the right to withdraw their data from the study or discontinue participation, as outlined in the informed consent. Each participant received a copy of the transcript, my notes, and interpretations from the final study data to ensure I captured the information correctly and additional feedback. I offered each participant an option to participate in a brief 15- to 20-minute follow-up meeting to discuss post-interview questions, thoughts, or clarifications. Each participant

was offered a $20 gift certificate sent electronically according to the participant's preference. Three participants declined the gift card.

Data Analysis Plan

Qualitative data analysis is the process of gathering, organizing, and interpreting qualitative data for published reports (Rubin & Rubin, 2012). In this study, I examined elementary reading teachers' perceptions of implementing DI in the reading classroom and the support needed for the improved use of DI. To better understand their perceptions, I utilized the qualitative research method of interviews.

Once each interview was completed, I sent the audio recording to Otter.ai. Otter.ai is an artificial intelligence web-based program that will transcribe audio into text. Once written transcripts were completed, I reviewed each transcript to ensure accuracy between the recording and the written transcript. Written transcripts were used to review line by line for analysis. Textual data is the primary source used in qualitative research for data analysis (Ravitch & Carl, 2021).

I analyzed the data for this study through thematic analysis. Saldaña (2016) explained themes are derived during the coding process from repetitive words or phrases represented in the transcripts. I transcribed and summarized all interviews. I followed Braun and Clarke's (2006) six-step thematic analysis approach. I began by familiarizing myself with the data from the transcripts by rereading and taking notes of the transcript (Braun & Clarke, 2006). I began generating initial codes by looking for repetitive patterns and searching for themes (Braun & Clarke, 2006). I began with open coding, in which I identified keywords or phrases related to the conceptual framework and research

questions. These codes were grouped into broader categories using different colored highlighters and a self-created code book. Once codes were created through open coding, I used axial coding to develop a connection between initial open codes to data. Codes with similar meaning were grouped together to determine broader categories that made connections between the codes. This process continued until categories began to reveal emerging themes that answered my research question. Next, I reviewed themes to ensure they represented the data (Braun & Clarke, 2006). Throughout the thematic analysis process, I asked questions, such as, "Do the themes make sense?" and "Does the data support the themes?" Once the themes made sense and the data supported the theme, then I began the fifth and final step in Braun and Clarke's process, refining themes and ensuring they were appropriately named. Maguire and Delahunt (2017) explained that themes are recurring ideas within the data to reveal something significant or interesting. The final report explains the thematic findings and how they aligned with the research questions.

Once the study findings were completed, I provided a two-page report to each participant through an email attachment for member checking. Member checking allowed participants to review the information and ensure that their perceptions were interpreted correctly (Lincoln & Guba, 1985). I encouraged participants to provide feedback by replying to the email or by requesting a short 10- to 15-minute follow-up interview. None of the participants found any disputes with the information.

During the data collection and analysis process, I used reflexivity through journaling to document my ideas, monitor my bias, and call attention to any discrepant

cases (Ravitch & Carl, 2021). I looked for evidence of discrepant cases in which two or more statements or results did not match. Ravitch and Carl (2021) emphasized the importance of examining the results for negative or discrepant cases in qualitative research. Discrepant cases can reveal potential errors in the construction of the data collection instrument, such as poorly worded interview questions or missing response options (DiLoreto & Gaines, 2016). By reviewing any discrepant findings, I was able to evaluate how they challenged my interpretation of the findings. I identified and discussed discrepant findings in detail.

Trustworthiness

Trustworthiness in qualitative research is selecting the most appropriate data collection method and ensuring participants' privacy (Elo et al., 2014). Trustworthiness demonstrates the quality of the research and the outcome. The trustworthiness of qualitative research is increased when four criteria are established, as Guba (1981) outlined. The four criteria are credibility, transferability, dependability, and confirmability.

Credibility

Credibility in a qualitative study measures how congruent the findings are with reality, which is compared to internal validity, and do the tests measure what is intended of a quantitative study (Shenton, 2004). There are many ways to increase the credibility of a qualitative study, including triangulation, reflexivity, member checks, thick descriptions, and peer feedback. According to Lincoln and Guba (1985), one of the most critical aspects of credibility is member checking. Member checking allows participants

to view the information and ensure that their answers are interpreted correctly. Fusch and Ness (2015) suggested that participants be allowed to analyze their transcripts to ensure the accuracy of the data collected. After conducting and transcribing the interviews, I sent a transcript and my interpretations to each interviewee for review and further clarification. Participants also received a copy of all themes and explanations for review and feedback.

Morrow (2005) and Tuval-Mashiach (2017) felt reflexivity and transparency are central to the quality of qualitative research. Motulsky (2021) stated that member checking may enhance the quality of the qualitative study when it uses reflexivity and contains transparent discussions of its rationale and implications. Reflexivity increases the researchers' awareness of their own experiences and bias throughout the research process (Ravitch & Carl, 2021). I used reflexivity through a journal by noting my thoughts about participants' comments and my ideas after each interview for review throughout the analysis process. Finally, to increase credibility, I regularly discussed results and thoughts with my committee chair to gain additional perceptions, as recommended by Ravitch and Carl (2021).

Transferability

Transferability in qualitative research is like that of quantitative studies' external validity, the extent to which the findings can be applied to other situations (Shenton, 2004). This is often more difficult in qualitative research because the studies are specific to a certain organization and a much smaller sample size than a quantitative study. To increase transferability in qualitative research, the researcher must provide a thick

description to allow the reader to compare the results with previous literature. I used thick descriptions in my research to ensure transferability. I provided how the current study compares with previous studies. Using open-ended questions during the interviews helped capture rich, thick, detailed descriptions. The research report includes the number of participants, the data collection method, the number and length of interview sessions, and the time of the data collection as part of transferability, as recommended by Guba (1981).

Dependability

Dependability in qualitative research is related to the reliability of quantitative research, results would be the same under the same conditions (Shenton, 2004). Cope (2014) declared that dependability is achieved when researchers utilize the rigors of research and produce repeatable results from previous studies. To increase dependability in qualitative research, I provided a detailed description of the research design. This allowed the reader to understand how I followed research practices and developed an understanding of methods and their effectiveness. In the report, I included a description of what was planned and executed, a detailed description of data collection, and a reflective evaluation of the study's process.

Confirmability

Confirmability is the qualitative researcher's concern for objectivity (Shenton, 2004). Objectivity is the removal of bias. Patton (2015) advised that an objective review of the collected data should guide the conclusions and interpretations without including the researcher's bias. I increased confirmability by using member checking and

reflexivity. Member checking allowed participants to confirm the accuracy of the data collection and interpretations. Reflexivity helped me to monitor my assumptions and beliefs throughout the data collection and analysis phases of research. Overall, in qualitative research, the report must be completely transparent, providing detailed descriptions and exposing researcher bias to increase the trustworthiness of the findings.

Ethical Procedures

Ethics in any research must be planned for and documented. I ensured that each participant's confidentiality, safety, and privacy was maintained. First, I gained approval from Walden University's Institutional Review Board (Walden IRB approval no. 02-23-23-1018124). Once approval was granted, I began the process of recruiting participants. I provided participants who agreed to participate with informed consent. Informed consent ensures that no harm should come to participants and participation is voluntary (Burkholder et al., 2020). Informed consent provided a full description of the study, including the purpose, expected procedures, duration, and participants' ability to decline participation or withdraw from the study at any point. Patton's (2015) guidelines stated that participants should not be obligated to complete a study if they wish to withdraw.

Ravitch and Carl (2021) stated the importance of the participant confidentiality by using pseudonyms and changing other identifying facts so the participant cannot be identified. I maintained strict participant identity and confidentiality through a password-protected personal computer and anonymous pseudonyms in data collection, data analysis, and reporting documentation. I will maintain and store the participant data, interview transcripts, video and audio recordings, and reflexive notes for a minimum of 5

years upon completion of the study, as required by Walden University, then destroy. These precautions ensure participants' confidentiality so no harm will come to them.

Summary

In Chapter 3, I 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. I presented my role as a researcher and how I managed potential bias. I selected a basic qualitative research design with semistructured interviews as an appropriate method to collect data to address the research questions for this study. I selected the participants by using a snowball sampling method to identify elementary reading teachers who met the study's criteria. Teachers who agreed to participate in the study took part in individual semistructured interviews to obtain their perceptions on using DI in the elementary reading classroom and what support they believe is needed to increase the use of DI. Lastly, I discussed the plan for data analysis and trustworthiness.

In chapter 4, I discuss details about the setting, study participants, data collection and analysis, results, and evidence of trustworthiness. I discuss how the interview data provided answers to the research questions. I identify the themes from the data and provide a summary of the themes by research question.

Chapter 4: Results

The purpose of this basic qualitative study was to understand elementary reading teachers' perceptions of implementing DI in the reading classroom and the support needed for the improved use of DI. The following research questions guided the study:

RQ1: What are elementary reading teachers' perceptions of implementing DI in the classroom?

RQ2: What are elementary reading teachers' perceptions of support needed for greater use of DI?

In this chapter, I present a detailed description of the data collection and data analysis procedures. This chapter also contains a discussion of the processes involved in ensuring the study's trustworthiness. I conclude the chapter with a presentation of the findings, data that support the findings, and a summary of the chapter.

Setting

I recruited 10 elementary reading teachers who used DI via educational social media platforms and snowball sampling to participate in the study. I conducted the semistructured interviews virtually using Zoom. All participants met the established criteria of being an elementary kindergarten through fifth-grade reading teacher with at least 3 years of experience using DI. Each participant reviewed and signed the consent form before their interview was conducted. I scheduled interview times through Calendly, an online communication platform that allows participants to schedule external meetings.

Demographics

All 10 participants were female. Eight were general education teachers, one stated she was a reading specialist who provided coaching in reading classes, and another was a reading interventionist who provided small group instruction in reading and some academic reading coaching. Their teaching experience ranged from 6 years to 21 years. To maintain confidentiality, each participant was given a code: Teachers 1–10.

Data Collection

The interviews lasted between 45 and 60 minutes each, and the entire data collection process took approximately 2 weeks. I audio recorded all one-to-one interviews using Zoom's audio-recording feature. Before the start of each interview, I asked participants to provide their consent for the interview to be audio recorded, and each participant agreed. I transcribed each interview using the transcription service, Otter.ai, which automatically transcribed the recordings verbatim. To check for transcription accuracy, I listened to the recording after it was transcribed and edited as needed.

The interviews began with a review of the consent form, which each participant had signed prior to the interview. I reminded each participant that she could stop the interview and withdraw from the study at any time and then reviewed the study's purpose and research questions. The interview questions were developed based on the research questions (see Appendix A). I maintained a reflective journal throughout the data collection process to write down notes during and after each interview for reflexivity, as recommended by Ravitch and Carl (2021). At the conclusion of each interview, I

informed each participant they would receive a two-page summary of the results at the end of the study for member checking purposes (see Burke Reifman et al., 2022) and a copy of the transcript from the interview (see Fusch & Ness, 2015). I also explained that if they had any questions, I would be available through a follow-up Zoom conference, phone call, or email response. I ended each interview thanking the participants for their time and contribution and offering them a $20 gift card to a store of their choice. The steps of data collection plan were followed precisely, and there were no unusual circumstances encountered during data collection.

Prior to recruiting participants, I conducted practice interviews with two educators not associated with the research study. The two educators were able to provide insight about the clarity of the interview questions and my performance as an interviewer. The mock interviews allowed me to rehearse interviewing and become familiar with the interview process and technology. The mock interviews also provided me the opportunity to anticipate participant responses and ensure I was using appropriate follow-up prompts to gather rich, thick descriptions of teachers' perceptions of DI. Using the interview protocol with predeveloped questions based on the research questions and follow-up prompts allowed data saturation to be reached and reduced the influence of research bias.

Data Analysis

I read each text line by line and began hand coding using thematic data analysis. I followed Braun and Clarke's (2006) six-phase thematic analysis process: (a) familiarizing yourself with the data, (b) generating initial codes, (c) searching for themes, (d) reviewing potential themes, (e) defining and naming themes, and (f) producing the report.

Thematic data analysis was helpful in this research study because the process allowed for examining similarities and differences in the interviews, analyzing the different perspectives presented by the study participants, and organizing the data in a meaningful manner (see Nowell et al., 2017).

Coding Preparation

Once interviews were completed, I transcribed all the audio recordings using Otter.ai and placed the transcripts into Microsoft Word. I separated the questions from the participants' responses and copied those conversations into Excel. Each transcript was kept on separate worksheet tabs in one workbook in Excel. I colored my words red and the participants' words black to make it easy to distinguish between the two speakers. I added a separate column to the top of each interview spreadsheet for initial open codes, axial codes, and themes. Next to the interview column, I added a column for a specific quote from the participant that was used as an example for the open code. This allowed for all codes, including axial codes and themes, to be linked back to a specific quote in the text.

I also created a separate Excel workbook as a code book. In the Excel workbook there were 9 different tabs. The first tab was labeled 1st Cycle Codes. On this tab there were 6 columns. The first column was labeled Code/Label Short column to record all initial open codes from each of the interviews. The second column was labeled Code Source which was used to identify the interviewee in which the code originally appeared. The third column was labeled Brief Definition which was used to define the initial code to ensure consistency across all participants who received that code. The fifth column

was labeled Example which was used to provide as a reference as I went back and forth during the iterative process to ensure consistency with coding. The sixth column was labeled Type of Code which was open for all codes. The final column was labeled Cycle of Coding column which was used to track the cycle I was on.

The second tab in the workbook was labeled 2nd Cycle Codes, and this tab was intended to show the initial open codes' connections to axial codes and axial codes' connections to final themes. This tab had three columns. The first column was labeled Code/Label – Short which were the initial open codes from the first tab. The second column was labeled Second Cycle Subtheme which represented the axial codes. The final column was labeled Final Theme. The second column, axial codes, and third column, final themes, were color coded by theme. Each of the five themes was given a color. Theme 1 was dark purple, Theme 2 was dark green, Theme 3 was dark blue, Theme 4 was orange, and Theme 5 was red. The corresponding axial themes were assigned a lighter shade of the final theme. This information was listed vertically down the sheet. This allowed for me to visually see the connection between the axial codes and final themes. This also helped me to visualize which codes were represented the most in the results.

The third tab was a different view of the same information from Tab 2 and showed the groupings of each theme connected to axial codes and then open codes. Each axial code and theme were color coded to make groupings more easily visible. This information was listed horizontally. Each column represented one of the themes with the corresponding axial code and open code listed under the final theme. This grouping was

an easier way for me to visualize the data. I referred back to this tab many times when creating the report.

Tabs four through eight represented one theme per tab. On each of these tabs there were five columns. The first column listed the quote from the interviewee, the second column listed open code label, the third column listed the interviewee assigned number, the fourth column listed the axial code, and the final column listed the theme associated with the open and axial code. The purpose of each of these tabs was to show each participant's quote connection to open code, axial code, and final theme.

The final tab was a code count where all initial open codes were listed and a count of how many participants were given that code was shown. This tab allowed me to begin to see the priority of common codes across participants. For example, meeting students' needs was an initial open code that nine of the 10 participants mentioned as important. The prevalence of this code among participants' responses showed me that reading teachers in elementary school who use DI value the importance of meeting students' needs.

Phase 1: Familiarizing Yourself With the Data

To familiarize myself with the data during the first phase of data analysis, I began by creating a chart of each participant's responses to the general questions to gain an idea of their years of experience in education, their current position and how many years in their current position, and the number of years they taught elementary reading and what grade levels (see Table 1). This chart allowed me to see common factors among all

participants and helped me to structure and organize the analysis process (see Linneberg & Korsgaard, 2019).

Table 1

Participants' Years of Experience

Participant	Number of years in education	Current position	Number of years in current position	Number of years in elementary reading	Grades taught reading
Teacher 1	13	Reading specialist	5	13	K–2nd
Teacher 2	15	Kindergarten	15	15	K
Teacher 3	15	1st grade private school	5	15	K, 1st
Teacher 4	20	1st grade	20	20	1st
Teacher 5	6	Kindergarten	6	6	K
Teacher 6	13	1st grade	10	13	1st, 2nd
Teacher 7	13	2nd grade	7	13	PreK, Sped, 2nd
Teacher 8	9	Reading interventionist	2	8	2nd–5th
Teacher 9	17	2nd grade		17	PreK, 1st, 2nd, 3rd
Teacher 10	21	Kindergarten	6	21	K, 1st

Note. Sped: special education teacher, PreK: preschool teacher, K: kindergarten teacher.

I then reviewed the interview transcripts and reflective journals multiple times. As I read the transcripts and reflective journals, I looked for repetitive patterns in participants' comments that related to the research questions and conceptual frameworks of the study.

Phase 2: Generating Initial Codes

As I reviewed the transcripts, I created an open code to match the participant's comments, which was placed in the interview Excel workbook and in the codebook Excel

workbook (see Table 2). I gave each open code a definition to ensure consistency throughout the interviews. Each code was also assigned a quote from one of the participants to serve as an example throughout the coding process. The open coding process was an iterative process in which I was constantly reviewing the code and reevaluating the code definition for accuracy.

Table 2

Examples of First Cycle Open Codes From Codebook

Quote	Source	Open code	Definition
I think if you're not giving all the students in your classroom the same type of instruction, you're giving them instruction that meets.	T1	DI definition	Teacher gives their own definition of DI instruction
When those students are targeted and given differentiated, explicit instruction in that area in a small group setting I have seen the "light bulb" moments when they get it and then they begin to excel.	T2	Positives of DI small group	Teacher explains how using small groups can have a positive impact on student understanding
It's a lot of work.	T3	DI is a lot of work	Teacher perception of DI is it requires a lot of work
You know, the interventionist definitely has helped.	T4	Interventionist support	Teacher reports the school provides interventionist to help with small group instruction for students who need remediation
I saw this on your questions that I read, and I was talking about it at lunch today. And I was like, have we ever received any trainings, and they're like, No, not that I realized that. I honestly don't think that we've ever had any.	T5	Lack of DI training	Teacher explains she has not received adequate training specifically to address DI at the school

This stage took several days as I looked for places in which these quotes aligned to the research questions and conceptual framework. I also based many codes strictly from a quote to see if any additional information would emerge. The themes and ideas in the data became more evident the more times I cycled through the data from each participant. When finished, there were 145 open codes across all 10 participants.

As more open codes were created, the iterative process of qualitative coding became apparent (see Ravitch & Carl, 2021). For example, as I created a new code in Transcript 2, I would go back and review Transcript 1 to see if that code applied to any section of the transcript. I would also continuously evaluate the definition of the initial code to ensure the definition applied to all instances of using this code. This process allowed me to develop new understandings of the data and capture the perspectives of the participants. For example, Teacher 1 mentioned how DI had helped improve social-emotional behaviors, such as participation and attendance for specific students, and I gave this comment a code of behavior improvement with DI. When interviewing Teacher 2, she mentioned how DI has assisted with behavior as well, but this teacher discussed how students with behavior issues were given behavior charts to assist with specific behavior problems. The code I used for this comment was behavior DI. I went back to Teacher 1 and reviewed the definition of behavior improvement with DI and decided that the definition was more about the positive outcomes of using DI that impact behavior, whereas the comment from Teacher 2 was about using DI behavior tools to improved identified behavior. I decided these two comments represented different data; therefore,

this resulted in two different codes. This situation showed me the importance of creating well-defined definitions for each code and the importance of using an example quote.

Once open coding was complete, I used axial coding techniques to synthesize the open codes into categories (see Table 3). From the open coding results, I highlighted responses that had similar ideas, words, or phrases. Throughout the coding process, I had been noting common codes or ideas that participants mentioned, such as positives of DI, challenges of DI, and instructional strategies used for DI. During this process, I also continuously reviewed my research questions and conceptual framework. Twenty subcodes were identified from the axial coding. Table 3 represents a sample of open codes, axial codes, and participant quotes.

Table 3

Quotes Connected to Open and Axial Codes

Quote	Source	Open code	Axial code
You're giving them instruction that meets their needs.	T1	Meeting students' needs	Components of DI
Small groups based on assessments.	T2	Data usage for DI	Data-driven instruction
Showing us what they want.	T5	Administrator stating vision	Administrator impact
I'm going to say training.	T5	Support needs training for DI	Trainings for DI
Time is always a challenge.	T2	Challenge of DI is time	Challenges of planning

Phase 3: Searching for Themes

I used thematic data analysis to discover themes represented by the data through synthesizing large amounts of data into categories that aligned with the research

questions and conceptual frameworks. As I identified emerging themes, I cross-referenced data with participants' quotes, open codes, and axial codes. As I searched for the themes, I needed to ensure that I represented elementary reading teachers' perceptions of DI and the support needed to improve the use of DI. Conducting member checks gave participants the opportunity to review the transcript and a summary of data analysis. None of the participants found any disputes with the information I had collected and transcribed.

I focused on open and axial codes to identify patterns in the data and six patterns emerged from these codes: (a) teachers view DI as essential; (b) driving forces of DI included data, relationships, and components of Tomlinson's framework; (c) there are many challenges for DI; (d) supports needed to include a common understanding of the vision for DI, additional people to support small groups, and curriculum supports; (e) training needs; and (f) importance of planning and the time to plan well. Six themes emerged: (a) teachers believe DI has positive student benefits; (b) teachers believe the driving force of DI should be guided by data, relationships, and learning styles; (c) teachers believe there are many challenges to DI; (d) teachers believe a clear vision for DI with additional personnel would improve the use of DI; (e) teachers believe targeted DI training is needed to improve the use of DI; and (f) teachers believe prioritizing time within the instructional day to implement DI and planning time to develop detailed lesson plans focused on students' needs would improve DI implementation.

Phase 4: Reviewing Potential Themes

Phase 4 was a detailed process of examining each theme to determine if it could be more than one theme or if themes needed to be combined. I used suggestions by Braun and Clarke (2006) to refine potential themes. Data within themes should cohere together, while themes should have a clear distinction from one another (Braun & Clarke, 2006). As I reviewed the quotes associated with Theme 1 and Theme 3, the data revealed that participants did believe DI produced many positive benefits despite the challenges presented by utilizing DI. Since these two themes had data that were coherent, I decided to combine these two themes to represent one theme. The next theme became, teachers believe DI has positive student benefits despite implementation challenges. As I reviewed the open codes and axial codes associated with Theme 2, the data demonstrated teachers' perceptions of DI is from a whole child approach. For example, Teacher 4 said, "You have to look at the big picture of classroom performance." I reworded this theme to include whole child wording. The theme became, teachers believe the driving force of DI is through a whole child approach. The final two themes did represent the open and axial codes in a cohesive manner and were left as written.

Phase 5: Defining and Naming Themes

These themes emerged in the data review connected to open and axial codes: (a) teachers believe DI has positive student benefits despite implementation challenges, (b) teachers believe the driving force of DI is through a whole child approach, (c) teachers believe a clear vision for DI with additional personnel would improve the use of DI, (d) teachers believe targeted DI training is needed to improve the use of DI, (e) teachers

believe prioritizing time within the instructional day to implement DI and planning time to develop detailed lesson plans focused on students' needs would improve DI implementation (see Table 4). Following extensive data analysis, I was able to answer RQ1. All participants emphasized the positive outcomes of using DI to meet students' individual needs. Nine of the 10 participants emphasized the importance of using small groups to meet students' needs. Eight of the 10 participants mentioned the importance of using data to drive instruction for DI. All the participants mentioned some challenges of DI implementation, including, DI can be overwhelming, there are challenges with student engagement, and the challenges of moving away from a traditional approach to teaching.

I was also able to answer RQ2. The most common comment was the importance of additional personnel to meet students' needs. Teachers also felt there was very little emphasis on training, especially for DI. Teachers believe the use of working with other colleagues, along with targeted instruction during collaborative meetings, would improve the use of DI. Six of the 10 participants mentioned the training they had received for DI was self-initiated training through attending endorsement classes, graduate school classes, or individual research. Finally, teachers felt that planning for DI was time consuming, but imperative for the success of DI. Teachers felt additional time for intervention blocks to provide DI targeted instruction and additional time to plan lessons would improve the performance of the students and increase the use of DI.

Table 4

Five Major Themes With Axial Codes

Theme	Axial Code

Theme 1: Teachers believe DI has positive student benefits despite implementation challenges	Components of DI Positives of DI for students Instructional strategies for DI Vygotsky's framework Challenges of DI Teachers' emotions towards DI
Theme 2: Teachers believe the driving force of DI is through a whole child approach	Data-driven instruction. Knowing a child Tomlinson's framework
Theme 3: Teachers believe a clear vision for DI with additional personnel would improve the use of DI	Support needs for DI Administrator impact School-provided supports for DI
Theme 4: Teachers believe targeted DI training is needed to improve the use of DI	Training provided at the school Novice teachers and DI Trainings for DI Training for data usage Self-initiated training
Theme 5: Teachers believe prioritizing time within the instructional day to implement DI and planning time to develop detailed lesson plans focused on students' needs would improve DI implementation	Challenges of planning Importance of planning Time and planning supports

Phase 6: Producing the Report

After the themes were discovered and created, I went back through each interview and coded each of the first cycle codes with axial codes and thematic codes. Each axial code and theme were color coded to make viewing the connection between the open codes, axial codes, and themes more organized. Theme 1 was colored dark purple, with the axial themes related to that Theme 1 colored light purple and the open codes with no color. Theme 2 was colored dark green, with the axial codes light green and open codes with no color. Theme 3 was colored dark blue, with the axial codes colored light blue and the open codes with no color. Theme 4 was colored dark orange, with the axial codes colored light orange and the open codes with no color. Finally, Theme 5 was colored red, with the axial codes colored light red and the open codes with no color.

I produced the report by using the color-coded data from the interviews and my reflexive journal. A detailed summary of the results appears later in this chapter. In the summary, I shared the participants' answers to general questions, setting, data collection procedures, and data analysis phases. Participants were never identified, and confidentiality was never jeopardized. There were no discrepant cases identified through the data analysis process.

Discrepant Cases

Discrepant data, which are data that does not fit within the emerging patterns, are not uncommon in qualitative research (Ravitch & Carl, 2021). Though most of the responses from the participants had commonalities, I identified some notable discrepancies. These discrepancies related to academic coaching and the use of data to inform DI.

Participant 1 is currently an academic coach for kindergarten through third grade. Teacher 1 works with many different teachers with various levels of experience. She also mentioned many teachers she works with are veteran teachers who struggle to make changes to their teaching approaches, "Moving away from the old way they taught, they don't want to evolve into this as what we have to do. They don't want to actually use the data to drive their instruction." She discussed teachers' inability to use data to inform instruction,

> As a reading specialist, right, now, I know that you have to analyze the data, because it's not one-size-fits-all. So, if you're not teaching the student on the level that they're at, I kind of feel like you might be putting some band aids on some

> issues. So, if you don't know the level that they're at, or where they're at, and you're just teaching everybody all the same. I feel as if those students that struggle, they're not going to improve or make the reading gains that they need to. If you're not intentional and looking at the data, and really using your data to drive your instruction and know where they're at, sometimes I have seen teachers that I work with, they truly don't know the errors or the skills their students are lacking in.

Though other teachers mentioned the importance of using data, they did not feel they struggled to use data to provide DI, nor did these teachers state their desire to teach one method to the whole class (see Table 5). Most, if not all, teachers who participated in this study presented themselves as experts in their field with many years of experience. This could explain the reason the teachers interviewed were able to discuss in detail how they use data to inform DI. However, Shareefa et al. (2019) and Peters et al. (2022) discussed the lack of data-driven instruction for factors such as lack of understanding and time constraints.

Table 5

Comparison of Participants' Views on Data Usage

Teacher	Comment about data usage
Teacher 1	I have seen teachers that I work with, they truly don't know the errors or the skills their students are lacking in.
Teacher 2	Small groups based on assessments that show their strengths and weaknesses in specific areas.
Teacher 3	Using assessments, a lot, then that has given us the opportunity to directly identify definitely where their skill level is, and where their skill level needs to go and where the holes are in between.
Teacher 4	I like to look at the MAP. I like to look at the student profile individually. I look at the learning continuum to differentiate in reading.
Teacher 5	We pull small groups or parapro will pull small groups out in the hallway and give those students that are still struggling on those areas (phonological awareness) more one-on-one attention, so they get another 15 to 30 minutes every morning before we even go into small groups of those phonological awareness skills. And we've seen that it just boosts them and you go from one week, we had zero last week, and this week, we're at three.
Teacher 6	MAP gives us a lot of information. You know, knowing exactly what skills the student is lacking or what they're ready to learn. But also use different things, like I said, like running records IDI, DIBELS to really break down and find out what that skill deficit is or, you know, what the student is needing.
Teacher 7	It's meeting the needs of all the students, you know, where they're at, looking at the data and trying to you know, make sure that I'm preparing lessons and activities that's going to, you know, challenge them but not frustrate them.
Teacher 8	Teacher explains a task in which students self-monitor their performance and then based on the data complete specific task on a specific slide number. This is your independent work based on where you scored. So, it was like if you had 1 through 2, go to slide 17, 3 through 4, go to slide 18. If you have 5 to 6, go to slide 19.
Teacher 9	Around December, when we had good solid data, we took both of our homerooms, and we looked at their dibbles and we said okay, these students really still need the phonics. These kids have got it, they need something more. So, we did ability group or level group.
Teacher 10	We use the Phonological Awareness Assessment to help guide our small groups and aid in determining the needs of our students.

Note. MAP: Measure of Academic Progress.

Results

I report and discuss the themes derived from the collected and coded data in this section. The problem that prompted this study was a gap in practice exists between reading research that suggests that DI improves student reading achievement and the practices of reading teachers who find differentiating reading instruction challenging to implement. The following research questions guided the collection and analysis of data:

RQ1: What are elementary reading teachers' perceptions of implementing DI in the classroom?

RQ2: What are elementary reading teachers' perceptions of support needed for greater use of DI?

RQ1 Themes

I identified teachers' perspectives about DI in reading instruction by collecting and analyzing data from one-on-one semistructured interviews. Based on the analysis of data from all sources, I identified response categories. Two themes emerged with the first research question, and three themes emerged with the second research question.

RQ1: What are elementary reading teachers' perceptions of implementing DI in the classroom?

The first research question focused on the reading teachers' experiences of implementing DI in the classroom. Through the guided questions during the interview, I asked teachers to explain their understanding of DI and their experience with DI. I also asked teachers to discuss how they felt DI improved reading progress for students and provide an example of a time when DI improved the reading progress of students.

Finally, I asked teachers to discuss how they plan for DI. Two overarching themes emerged for RQ1: (a) teachers believe DI has positive student benefits despite implementation challenges, and (b) teachers believe the driving force of DI is through a whole child approach.

Theme 1: Teachers Believe DI has Positive Student Benefits Despite Implementation Challenges

When asked what DI means to them, most teachers described the importance of meeting students where they are academically. Then, participants discussed meeting students' needs for remediation or acceleration. Teachers discussed DI is when the teacher is constantly evaluating student performance and adjusting lessons and activities according to students' level of proficiency. For example, Teacher 9 stated, "As students make progress, you know, I need to be prepared to then increase that child's instruction or increase that child's enrichment based on the progress that they're making."

Teachers were asked to discuss their experiences with DI. Teachers discussed instructional strategies used when implementing DI. Nine of the 10 teachers discussed the importance of using small group instruction to meet students' academic needs. For example, Teacher 2 stated, "My experience with differentiation in the classroom is working with students in small groups based on assessments that show their strengths and weaknesses in specific areas." Teachers also discussed examples of acceleration, proving instruction at a higher level or a faster pace, and examples of remediation, proving reteaching of skills not previously mastered. Teacher 6, a first-grade teacher, provided an example of an acceleration activity she uses in her room.

> They [acceleration students] are doing report writing, and they're studying like an animal. They're using Pebblego website to find information and they are creating their own Google slideshows. They're so into that right now, like learning how to make Google Slides, you know for first grade it can be a challenge, but those kids like just really have honed in on that and love it and love to present what they've done to the class.

This teacher not only provided an example of an acceleration activity, but showed how this activity also demonstrates differentiation of process, ways students learn material and product differentiation, ways in which students demonstrate understanding (Tomlinson, 1999). Additionally, it addresses student interest, which is also part of Tomlinson's (1999) conceptual framework.

Teacher 8, reading interventionist for Grade 2 through Grade 5, discussed remediation activities for comprehension.

> For my students who are just to seem to miss the mark altogether, I may have a scaffold with some type of graphic organizer. I may have to lower the passage to a grade level below just see if they understand the skill before I say well, they don't understand the skill and then I know whether it's the skill or just because their reading ability struggles, they can't comprehend it takes to ask the question.

This teacher addresses two areas of concern with this level of differentiation. First, she provides the child with a lower Lexile text to decrease the complexity of the text for a student who may have lower word recall skills. Then, she asks the student to demonstrate the same comprehension task the class is asked to complete. This allows her to analyze if

the remediation needs to be with word recall, with the comprehension strategy, or both. Without the use of differentiation, this teacher would not be able to understand how to address this student's weakness.

Vygotsky's (1978) theory was one of the conceptual frameworks of this study. Vygotsky discusses the importance of scaffolding learning for students within their (ZPD). This is providing a student with tasks that are slightly above their independent level, but with the support of a more abled peer or adult, the student can accomplish them. This framework also emphasizes the importance of social learning opportunities. Though all participants indirectly utilize components of this theory, four participants specifically mentioned direct use of this theory. Teachers 3, 8, and 10 discussed the importance of students learning from their peers. For example, Teacher 10 stated, "I have noticed that the students will often spur one another on and end up learning from one another because they are all working on the same skill until mastery." Teacher 9 discussed the importance of providing students independent reading opportunities that were within their ZPD. She discussed how she helps students determine their independent level and assists them in increasing levels over time. "So, we do small group and there's independent reading and they read on their level and then there is a program that goes with it, and that program meets them where they are" (Teacher 9).

When teachers were asked to discuss how they believe DI improves students' reading progress and to provide an example, all teachers discussed the positive impacts of DI, and many teachers revealed the emotional aspects of how the use of DI has impacted them personally. Many teachers discussed how DI builds confidence for students.

Teacher 6 discussed a particular student she has seen DI improve not only academic progress, but also build confidence,

> So now after many months, her confidence level has gone up. And like I said, we've met some of those needs through some intervention support, as well. And but, she's so much more confident now. And now when she comes up to me in the group, she's like, I love to read, are we reading today? Her whole demeanor has changed.

Many similar stories of ways using DI builds confidence for students was a common comment across most of the participants. Teacher 8 stated,

> It [DI] builds confidence, self-esteem, and engagement. And so, when they feel a part, all of them feel a part of the process. All of them are moving even though it looks different. It changes the whole dynamic of your classroom and how well your students' progress and learn every day. And just actually being able to read period, whatever that looks like.

Teacher 8 also became emotional when discussing the progress of students. She stated, "Oh, Lord, I hope I don't get emotional. That's exactly what this does to me because reading is my passion and making sure that students can read." Teachers also emphasized how DI improves academic performance. For example, Teacher 2 stated, "When those students [lower performing students] are targeted and given differentiated, explicit instruction in that area in a small group setting, I have seen the 'light bulb' moments when they get it and then they begin to excel."

Teachers were asked to discuss the main challenges to providing DI in the classroom. Several common ideas emerged from this question, including time constraints, challenges of meeting a wide range of abilities, behavioral challenges, administrative support, and moving away from a whole group teaching model. However, despite the challenges mentioned by the participants, they all indicated they would continue to use DI. They all expressed that this is the way they approach education and did not feel the students would make the progress they had made without the use of DI model.

All participants mentioned something about time as a challenge for implementing DI. Teachers 2, 3, 5, 6, 7, and 9 mentioned time as an issue during the day. These teachers commented that often there is not enough instructional time in the day to meet all the needs within the classroom. Teacher 5 expressed,

> Not enough time in the day, I think that's the biggest one is you don't have enough time to really visit. Our groups are broken down into four or five kids, but you know sometimes, you could even break it down to two or work with them individually on some of that stuff that they need, so time would be the biggest issue.

Teachers 1, 2, 3, 8, and 10 discussed the challenge of time when it comes to planning for DI lessons. Teacher 10 noted, "I perceive the main challenge is the amount of time it takes to plan and prepare lessons correctly." Teachers 1, 6, 7, 8, and 10 discussed time issues with respect to the opportunity to observe and collaborate with other colleagues on DI components. "I have not gone and sat in other classrooms, they do allow us to do that,

but I have not gone in and watched others differentiate, I would like to find the time. We just haven't done that" (Teacher 10).

Five of the 10 participants mentioned DI can be overwhelming with trying to meet the needs of such a wide range of abilities in one classroom. Teacher 1 stated, "I'm overwhelmed. I'm trying to get everything into small or whole group, and there's just so much we have to do." Teacher 7 expressed, "Sometimes that [DI] can be overwhelming, especially to a new teacher coming in." Teacher 10 commented, "I was very overwhelmed with meeting all of my students' needs." These comments show the amount of pressure these teachers feel in meeting all the needs within one classroom. Although DI produces many positive results, DI does have its challenges with trying to figure out how to meet all the needs.

Teachers 3, 4, 6 and 7 discussed the challenge of DI implementation with behavioral challenges in the room. Many of the teachers discussed the impact students with behavioral issues have when they must work independently. Teacher 6 noted,

> I think keeping students focused and engaged during the lessons because you know, the workshop model and when you break apart and you're in groups, you know, you really have to keep teaching those classroom management strategies and techniques just to keep the students engaged (Teacher 6).

Teacher 4 discussed the challenge of additional time to plan for engagement of all students throughout the small group rotations,

> So, I think constantly when I'm lesson planning, okay, if I give a small group, or an individual, this differentiated activity or task, how is that going to look in my room, like, how am I going to manage if I'm working with another group?

Administrative support was another challenge mentioned by three participants. These participants felt that without administrators stating a clear vision for DI and providing the support necessary for implementation, DI becomes far more challenging and varies greatly in implementation throughout the school. Teacher 1 commented, "The teachers should know where the administrators stand [with their ideas on DI]." Teacher 5 stated, "Showing us what they [administrators] want [for what DI should look like]." Teacher 5 also discussed when new teachers or student teachers come in to observe in her room and her colleague's room, it can be confusing for what DI should look like, because each teacher approaches DI very differently. She felt, administrators stating a clear vision for what is acceptable for DI approaches would streamline the implementation within the school. Bondie et al. (2019) supports these comments, "Inconsistent definitions, outcomes, and changes to teacher practice taken together create a vague and confusing vision for how DI may ensure optimal challenge for all learners in a general education" (p. 354).

A few teachers mentioned the struggle some teachers have in moving away from the whole group teaching model, where all students receive the same instruction and are expected to demonstrate understanding in the same ways. Teacher 1, an academic coach, was the main interviewee to mention this challenge. Teacher 1 discussed this regarding the teachers she works with, "I've done it for 30 years this way, and this is what I'm

doing." Teacher 4 mentioned, "But, I think it's so easy to kind of get, especially after 20 years, locked in your classroom and feel like you're stuck in a rut." Although only a few teachers mentioned this as a challenge, Tomlinson (2020) mentioned the challenge of teachers understanding how to move away from the traditional way of teaching. Many teachers' perceptions of education come from traditional views of educating students, such as teaching is telling, students are dependent, management is about control, fair is treating everyone the same, learning is delivered through drilling skills, and assessments are used at the end of units to see who understood the content (Tomlinson, 2020). Though this issue may not have been a perceived challenge of these participants, if a different pool of participants, such as administrators or academic coaches, had been interviewed, this challenge may have been more prominent.

Theme 1 presents evidence that teachers feel DI is an imperative component of elementary reading classroom. It is necessary for students to increase academic performance and build confidence. Teachers highlighted the importance of understanding students' academic abilities and meeting their needs through small group instruction. Though teachers did mention several challenges of DI implementation, all the teachers emphasized the importance of the DI model and will continue to use this model, despite the challenges they may face with implementation.

Theme 2: Teachers Believe the Driving Force of DI is Through a Whole Child Approach

Theme 2 continues to address RQ1. Teachers addressed this theme when they were asked to discuss their experiences with DI and how they believe the use of DI

improved the reading progress of students. Three overarching ideas emerged to develop this theme: knowing a child, data-driven instruction, and Tomlinson's (1999) framework.

When teachers were asked to describe ways in which DI has helped a particular student, five of the 10 participants, Teachers 3, 4, 6, 7, and 9, discussed specifically the importance of addressing students' needs from a whole child perspective by developing a relationship with the child. For example, Teacher 3 commented, "I know my students really well and I kind of know what pace I need to go, or I know exactly what I need to do to feed needs." Teacher 4 expressed, "I just think that because you build a relationship with a child, then it's going to motivate them to strive to reach the expectations you set." These teachers stressed the importance of building relationships and getting to know students prior to any form of DI. They believe this was the foundation to successful DI. These teachers believe, with increased understanding of the child's preferences and academic abilities, lessons could be tailored to meet the child's needs. They believe this leads to increased motivation. Teacher 7, a second-grade teacher, stated, "The kids need to feel successful, and if they feel successful, then I see them trying to read higher order things."

Once teachers feel the relationships are established, then they are ready to begin further developing an understanding of a child by analyzing all forms of data. Eight of the 10 participants specifically mentioned the importance of using academic data to develop DI lessons and small groups. These teachers discussed using formal data from school assessment screeners and tests and informal assessments through classroom observation, conversations with parents, and reviewing historical data. Teacher 7, a second-grade

teacher, discussed her use of Measurement of Academic Progress assessment and how this helps her to identify skill deficits to improve the student's academic performance,

> If you get on in there, because when you dig in that data, you start finding all these little missing pieces that these kids are missing, like, you know, it's tiny little kindergarten standard all the way down at the bottom of the list, even though it appears at the top, it says how you can start here, but it's like wait a minute, you know, so you're wanting me to paint the deck of the ship while we've got this hole down here leaking down here in the bottom. Like, so why don't I plug this hole down here that probably will only take me a conversation or two with this child, you know, or maybe more, it may take more depends on how many of those holes I find and then you know, build up to you know, those other things that it's saying they're ready for.

This deep level of understanding of the academic data allows this teacher to address individual weaknesses that may be holding the child back with progress.

Tomlinson's (1999) DI model is one of the conceptual frameworks of this study. This framework addresses the four strategies for DI: content, process, product, and environment based on children's readiness, interests, and learning styles. Two teachers addressed the importance of differentiating the content by building background knowledge of a topic for students. Teacher 4 discussed how her independent stations are ran by saying, "I let them listen to the weekly opener to kind of get a preview of what we're going to be reading and talking about that week." Teacher 7 explained prior to a child reading a text independently, especially informational, she feels it is important to

build their background knowledge for the topic, “I feel like that you do need to make sure your children you know have a little bit of background knowledge on that, so they don’t feel frustrated. When they get done. I want them to feel successful.”

Teachers discussed process differentiation through various strategies that allowed students to access the curriculum in many ways. Teacher 8 defined DI by addressing process differentiation,

> Differentiated instruction means to me that you are able to meet your students where they are academically, … that you can provide them with an experience that they can connect with, whether it’s auditory or tactile. Maybe a one-on-one. Maybe they need a different type of activity. But just being able to give them what they need, so that they can master the content at their level.

Teacher 5 addressed the importance of allowing students to set the pace. She stated, “I think it helps them just keep moving at their own pace. They’re not pushed too far and it’s just kind of at their own pace.” Teacher 4 revealed, “I use leveled repeated reads of leveled readers for Wonders in my literacy stations and other students.” Many teachers discussed remediation and acceleration activities, which would fall under process DI. For example, Teacher 5 discussed process differentiation when she does remediation activities for phonological awareness tasks,

> So, like just spending the extra time with them and working with it and then giving them not just verbal, but giving them manipulatives to move as they’re saying the sound and switching the sound out. And that’s things that we don’t

> normally do. When we're giving that test. It's a differentiation so that they can see the movement of the word.

Teacher 8 gave an example of process differentiation that is based on data and provided immediate feedback to students,

> So, she had a screen that showed all the students submitting the answers anonymously, of course. Every student had an index card on a table, and they had to write one out of six right, four out of six right, five or six, so on. So, when 100% of the students had submitted, she went to the slide and the slide said, this is your independent work based on where you scored. So, it was like if you had one through two go to Slide 17, three through four, go to Slide 18, if you have five to six, go to Slide 19. And so, the kids were able to go to the slide they needed to go to. So, I got to walk around the room and see exactly what they were doing. So, different styles of passages. For each student, they either paired down or for the accelerated group the vocabulary was really intense. The questioning was different. I thought that was one of the best when you prepare for what may happen in a classroom. It was amazing.

Process differentiation allows teachers to provide students with the appropriate level of instruction and support during the learning process through various activities, text complexities, technology-enhanced DI, or simply providing additional time to learn the material.

Products are how students demonstrate an understanding of the content (Tomlinson, 1999). Products can be differentiated by allowing students to take

assessments in a small group or individually, products can be differentiated through various creative student projects, and assessments can be differentiated by difficulty level, such as providing a multiple-choice test verses an open-ended test (Subekti, 2020). Many teachers discussed product differentiation with choice boards or the creation of slide presentations. For example, Teacher 6, a first-grade teacher, explained her advanced students are currently working on reading a chapter book and demonstrating their understanding through slide presentations. When asked what this task would look like for a student who needs more support, Teacher 6 stated, "They can, like I guess, show their information that they've learned a different way by writing it down or making, like, a poster or a picture. Just use a different way to model or show what they've learned." None of the other teachers addressed the use of differentiated products specifically.

Learning environments are also an important component of Tomlinson's (1999) framework. Teachers 1, 4, and 9 discussed flexible seating options to differentiate the learning environment. Teacher 2 discussed differentiating the environment to provide students opportunities to work independently or with a small group,

> They can go quietly read a book, if that's, you know, that's their preference. And, you know, during specific times of the day, they do have an area that, you know, there's drawing supplies if they want to draw, or to write, a writing area. And then I do have, like, a puzzle, you know, manipulative kind of area.

Teacher 9 discussed her independent reading time as one of the most differentiated times of the day. Not only are the students' reading tasks differentiated by readiness level and interest, she also provides flexible seating options, "I call it DEAR time, drop everything

and read, and this is a time when they can sit under their desks, they can sit on the carpet." Teacher 8 discussed the importance of creating a safe place for students to feel free to make mistakes without the fear of peers ridiculing them. When asked how she creates this environment, Teacher 8 replied,

> If you want to see my head spin around on my body, mistreat another child in front of me for them not being able to do what you do. If you want to lose me as someone you can come to talk to, mistreat somebody because of the way they are academically. That's it now. I only have to say it maybe twice. And that's it. It doesn't come out as friendly as it did just then, but that is something that they know that I mean, if I had anything that sounds like a chuckle or laugh or something, I address it immediately. "Not here, not ever again," and they understand that, and so, I don't really have to say much anymore. It becomes a joy because they feel free to make mistakes, as well as I point out my mistakes. I can't get a word out for anything in the world. Um, it just sounds like I made a mistake, but guess what, I'm gonna keep going. So, when they see that and hear those combination of two things, I think that's a safe space, as well as a reward.

Tomlinson (1999) and Vargas-Parra (2018) discussed the importance of ensuring students feel safe and engaged in the classroom. Teacher 8 continued to provide many examples of students who initially did not participate in the classroom, but as the year progressed, they have volunteered to read and have shown great growth. She feels that is due to the safe environment that has been created.

Tomlinson's (1999) framework also discusses the importance of students' readiness, interests, and learning styles when considering DI lessons. Ortega et al. (2018) posited that when students are grouped by readiness, interests, or learning styles, students can develop new knowledge through collaborative learning activities. Teachers addressed readiness when they discussed the importance of looking at data. Tomlinson defines readiness as a student's entry point relative to a particular understanding or skill. Teachers 1, 3, 4, 6, 7, 9, and 10 all addressed the importance of understanding a students' readiness level for placement in the correct group and instructional plan. For example, Teacher 2 commented, "[We are] using assessments a lot, then that has given us the opportunity to directly identify where their skill level is, and where their skill level needs to go and where the holes are in between." This allows the teacher to provide instruction that is not yet mastered, but within reach when given the right amount of support.

Considering a student's interest is another component of the Tomlinson's (1999) framework. Tomlinson stated that interest is a child's affinity, curiosity, or passion for a specific topic or skill. Only two teachers specifically addressed the importance of driving instruction based on students' interests. Teachers who utilized choice boards were providing instructional opportunities based on student preferences. Teacher 1 commented, "If the kids are not engaged in something they want to read, we're not going to see success." Gumpert and McConnell (2019) highlighted the importance of teachers providing opportunities for students to state their preference for learning materials. Teacher 4 provided a great example of allowing students to demonstrate knowledge through their own interest. She completed a unit on inventors and then allowed students

to create their own invention. Students not only had complete autonomy in what they wanted to invent, they had many options for presenting the inventions. Teachers could utilize student interest inventories at the beginning of the year to determine interest and incorporate those preferences throughout instructional activities.

Tomlinson (1999) addressed student's learning profile, which is shaped by their intelligence preferences, gender, culture, or learning style. Learning style could include various preferences to learn material through visual, auditory, or kinesthetic and can also include their preference to work collaboratively or independently. Teachers 8 and 10 specifically addressed learning styles as an essential component of DI. Teacher 8 stated, "[I] provide them with an experience that they can connect with, whether it's auditory or tactile. I also have to take into consideration multiple forms of intelligence." She explained multiple forms of intelligence was her understanding a child's preference for learning through auditory, tactile, or visual. Teacher 10 addresses tactile learners by providing them opportunity to draw letters in sand or build letters and words with playdough.

Overall, teachers provided the most differentiation through process by providing various levels of text based on students' readiness levels. Many other teachers discussed differentiation of product by providing students with a choice board to demonstrate knowledge of standards. A few teachers mentioned the importance of addressing students' interest and learning profiles when planning instructional activities.

RQ2 Themes

The second research question focused on the perceived challenges of DI and the support participants felt would improve the implementation of DI. The questions asked teachers to discuss the challenges they face when implementing DI, the trainings they have participated in that addressed DI, the supports provided by the school for implementation of DI, and additional supports they believe would improve the use of DI. Three overarching themes emerged for RQ2: (a) teachers believe a clear vision for DI with additional personnel would improve the use of DI, (b) teachers believe targeted DI training is needed to improve the use of DI, and (c) teachers believe prioritizing time within the instructional day to implement DI and planning time to develop detailed lesson plans focused on students' needs would improve DI implementation.

Theme 3: Teachers Believe a Clear Vision for DI with Additional Personnel Would Improve the Use of DI

When teachers were asked their perception of the main challenges of providing DI, teachers discussed the importance of additional personnel for assisting with small groups, administrator impact, and school structures and supports. Seven of the 10 teachers specifically mentioned additional personnel as being impactful or needed to improve the use of DI. Teachers mentioned the interventionists' support and behavioral interventionists as a necessary component of successful implementation. For example, Teacher 2 stated, "I feel like we could use more interventionists to help facilitate differentiated instruction." Teachers 3, 4, 5, 6, 8, 9, and 10 all echoed this statement. These teachers felt that often there are certain students in the room that the teacher is

unable to meet their needs within the small groups. Teacher 9 emphasized, “I think if we had this extra support in first grade, we would have better readers coming into second grade. … nothing beats another warm body in the classroom that can give those kids direct instruction.” Bemiller’s (2019) research supports these findings and stated that teachers felt they needed support staff to meet the needs of students in the classroom. Teachers 4, 5, and 6 discussed the importance of having additional personnel for addressing behavioral challenges in the classroom. Teacher 4 explained students with behavioral issues can cause great disruption in the learning environment. making DI difficult,

> In this day and age, with challenging behaviors on the rise within our students, and I think the biggest challenge, and I feel like I’m feeling this very strongly this year, when you have students or a student that has a very challenging behavior, it is extremely difficult, almost impossible, when you do not have like a behavior interventionist or another person to come and allow that student a break or whatever they may need. Without them interrupting my differentiated instruction, that happens constantly this year because I do have, you know, a student or some students with challenging behaviors or some behaviors that are impeding the learning of others and it’s very hard with the constant interruptions.

The struggle for dealing with behavioral challenges has been seen in previous literature. Miranda et al. (2018) stressed teachers did not have the knowledge to provide DI for behavioral or social-emotional needs. Teacher 4 also stated,

> So, behaviors support staff member, whether that's a parapro or, you know, a full-time person that is trained, or a behavior specialist, you know, and I know that if money wasn't an object for any district, you know that I would say, absolutely, that would add as many as we can get, you know, to help out. So that's a huge need, I feel like or support to provide essential differentiated.

Teacher 5 agreed by stating, "The only way that we have to accommodate them is a behavior chart or check-in check-out. Things like that, whereas sometimes they need a little bit more a counseling session or just pull-out time for social stories." This evidence shows that teachers in this study strongly feel that additional support would not only help improve DI for academic needs, but also support those with behavioral challenges.

The next area of need teachers felt would impact DI is administrative support. Magabeleh and Abdullah (2020) and Suwastini et al. (2021) supported these findings by stating that successful DI requires commitment from leadership by creating a school culture of DI mindset. Tomlinson (2020) stated that to address the lack of full implementation of DI, leaders need to lead from a vision of DI model, provide teachers with classroom-focused support for an extended period, provide opportunities for teachers to collaborate, work with various stakeholders, remain committed to the change process, model differentiation for teachers, and establish regular evaluation of implementation. Teacher 1 stated, "So, I feel as if the administrator should be huge in this [DI]. The teachers should know where the administrators stand." Teacher 5 commented it would be helpful with implementation of DI if administrators would "show us what they want." Teacher 5 further explained, "I think that [stating a vision] would help a lot just

knowing what they expect. How the mentor teachers should be guiding their newer teachers. That would really help, as well." Teacher 10 expressed, "They've [administrators] never really shown us what they want it to look like. I feel like they kind of just leave it up to the teacher, what feels right to them in the classroom and not just have it one set way."

Closely related to administrative support and the importance of a clear vision is the school and system providing the support necessary for DI implementation. Teachers 2, 6, 9, and 10 discussed the importance of curriculum support for DI. Teacher 6 felt the school did a nice job with providing a curriculum that offers suggestions and materials to differentiate for students, such as different leveled text and even text specifically for English learners. Teacher 9 discussed her experience with teaching a program called Read 180, which she described as a reading intervention program designed based on students' individual needs. She feels her experience with this program has helped her structure her class with a DI mindset. Teacher 10 felt her school district provided a wide range of materials and curriculums that allowed her to provide her students with the appropriate level of instruction. Teachers 2, 6, and 7 discussed the school structures that are in place that allow for effective DI. These teachers all discussed an intervention period that is in the school schedule specifically to address students' academic needs. These teachers called this time an intervention block, in which the entire grade level would group students based on reading academic ability. Students would participate in various activities based on their current performance. These teachers also discussed

students' performance was frequently assessed, so students could move to the correct group.

This evidence proves the participants' perception on important aspects of DI include the need for additional personnel, administrative support, and school structures and supports for improved use of DI. Several previous studies have supported these findings. Merawi (2018) reported teachers faced challenges with acquiring necessary material needed for DI lessons. Many of the participants in this study felt their access to materials was sufficient for implementation of DI. However, Teacher 7 did mention additional funds to purchase materials are needed, "I spend a lot of money out of my own pocket, just making things and buying things and, you know, creating these hands-on activities and you know." Theme 3 is supported by the participants' perceptions and previous research that administrators creating a clear vision for DI and additional personnel improve the implementation of DI.

Theme 4: Teachers Believe Targeted DI Training is Needed to Improve the Use of DI

All participants in the study mentioned training as a need for improved use of DI. Teachers discussed the need for data use training, especially for novice teachers; opportunities to observe others; and overall lack of training provided by the district. Many participants commented that their training was completed through their own time outside of the school. Previous research supports these findings. Lavania and Nor (2020) revealed the most common challenge of DI implementation was the lack of knowledge for implementation. Zhang et al. (2020) indicated that teachers stated they needed more professional development addressing curriculum standards, technology, teaching students

with special needs, and approaches to individualized learning or DI. Bemiller (2019) noted teachers reported the need for training in classroom management strategies, classroom instructional strategies, learning strategies for children with mild to moderate disabilities, and training in sensory processing challenges. Arnaiz Sánchez et al. (2019) revealed universities have an important role in developing new teachers with the understanding of how to provide equitable and quality education for all students.

Teacher 1 felt teachers lack the knowledge to use data to drive DI. Other participants did not feel they lacked the knowledge to drive instruction using data; however, Teacher 1 is an academic coach and provided a unique perspective for this study. When discussing data usage, the participants stated that novice teachers lack the understanding for DI, including data usage. Teacher 9 commented specifically on the lack of understanding of these new teachers,

> Hopefully, this research can lead to, like maybe, mentoring new teachers coming along because it is hard. You get a lot of data thrown at you. And you're like, okay, here are your kids, and then you're like, oh my gosh.

Teacher 7 also addressed novice teachers' need for additional experience and training in data-driven instruction,

> The bachelor level should have in-depth instruction and training on how to differentiate in all areas and what data to determine during this process. This would help aspiring teachers out of the gate to at least understand the goal and expectation, so they aren't blindsided by the reality that all students will not be on the same level.

Karst et al. (2022) supports these comments in their research by demonstrating teachers in their study did not use data-driven instruction for DI practices. Peters et al. (2022) commented that many teacher education programs do not include data-driven DI as part of the teacher education program, leading to limited understanding for novice teachers.

Teachers 1, 3, 4, 7, 8, and 9 discussed the value of observing other teachers. Teacher 7 commented,

> I want to know, and then just collaboration between the, you know, different second-grade teachers across the county, you know, just to see what they're doing. And then, you know, adopting some things that they're doing and making them my own for my class.

Teacher 9 felt observation of other teachers is perhaps more valuable than training,

> I'm still going to go to somebody else's classroom and see what they do and see how I can improve it. So, I do a lot. I do a lot by watching other people and talking to other people, more so than going into a training.

Lack of training provided by the district was a common thread across most of the participants. Teacher 5 commented,

> I think back to like Saxon [curriculum used in Teacher 5's school for phonics] and I remember them talking about the kid card games and all of those things, if they fail this assessment, then you can go back and do these things. We didn't really drill into it to the point that I feel comfortable using it on the daily.

Teacher 6 and Teacher 10 made similar comments about not participating in DI training at the school.

This is a common thread seen in previous research. Brevick et al. (2018) discovered teachers did not receive sufficient training to address gifted and advanced learners. Miranda et al. (2018) found teachers were not provided training that addressed social-emotional needs. Arnaiz Sánchez et al. (2019) revealed the number one educational barrier for DI includes lack of teacher training. Suwastini et al. (2021) posited teachers need to be provided with professional development opportunities.

The participants discussed their personal desire to improve their understanding of DI; therefore, many of them participated in training outside of their school building through graduate studies, independent research, or endorsements. Teachers 1 and 3 discussed their participation in Language Essentials for Teachers of Reading and Spelling training, which they explained was a training that addressed all components of reading. This allowed them to assess and differentiate instruction for students because of their understanding of various components within reading. Teacher 3 discussed how she has learned DI strategies through podcasts and collaboration with others. Teachers 6, 8, 9, and 10 discussed DI strategies learned through participation in graduate courses. Teacher 9 stated, “I think when I was getting my masters and my specialist, we talked a lot about differentiation.” Other participants discussed their participation in endorsements, such as reading endorsement or gifted endorsement. Teacher 4 stated,

> I do Tic Tac Toe menus, which is just a strategy from my gifted endorsement that I really dug deep into. I had been taught from another colleague that had gotten their different or their gifted endorsement rather about Tic Tac Toe menus, but choice boards some people like to call them, but I really was able to get a deeper

> understanding and feel for that when I went through my gifted endorsement, as well as you know, just in pretesting and different things, like that strategies that I use to differentiate my instruction individually.

Teacher 6 discussed some of the strategies she learned while participating in an endorsement.

> [I learned] strategies for differentiation, especially with my gifted students. [We used] lots of ways to incorporate creative thinking and problem solving. I've used certain things like Tic Tac Toe boards, choice boards, things like that. Really with all my students, but you know, the task on the Tic Tac Toe boards may vary depending on, you know, what their needs are.

The results from this study, as well as previous research, support the theme that DI training is needed to improve the implementation of DI in the classroom. Common threads seen throughout this study and the research are there is a limited focus in many teacher preparation programs for DI. Additionally, school leaders expect DI to be occurring in the classroom, but there is little to no professional development provided within the schools on the topic of DI.

Theme 5: Teachers Believe Prioritizing Time Within the Instructional Day to Implement DI and Planning Time to Develop Detailed Lesson Plans Focused on Students' Needs Would Improve DI Implementation

Teachers believe they need prioritized time for instructional planning and prioritized time during the school day to address academic differences. Many teachers discussed the importance of having small group time to meet students' needs and felt this

was the best way to differentiate instruction; however, they felt the way their instructional day was scheduled did not allow for enough time to have small group instruction in their classroom.

Previous research supports the challenge of time constraints with DI (Suwastini et al., 2021; Whitley et al., 2019). Suwastini et al. (2021) emphasized teachers' workloads increase as the variability among students increases. For example, a class with a diverse cultural background could increase the workload for the teacher before, during, and after the learning process. Teacher 6 specifically addressed this issue when discussing the challenges of DI,

> I definitely think it's time to prepare everything like what, um, you know, like what we've been talking about me pull in different things in, you know, based on whatever we're doing, just the time to prepare because, I mean, if I have 20 students, they all may have 20 different needs or more that need to be met in reading and in math, you know, so it's just you're having because I guess we look at the whole child that it just takes a lot of time to pull all that in together every day. So, I think that time is one of the biggest challenges.

Whitley et al.'s (2019) research supports these findings. Whitley et al. stated that time is a major challenge for teachers when addressing the various needs of students.

Seven of the 10 teachers discussed the importance of developing detailed lesson plans for DI. Teacher 8 discussed the importance of anticipating the differentiation needs that may arise during the lesson,

> I have learned that if you don't have a plan in place, it does not go really well. You can't just show up assuming all students are going to benefit from that one lesson plan, that one activity that you have. You have to plan for those that will master it right away, you need some sort of extension activity. And, for those that will not get it, you need to be prepared with some type of resource to go ahead and address that issue immediately.

This level of planning is described as planned scaffolds, in which a teacher plans the needed supports prior to instruction (Johnson, 2019). Since many participants felt detailed lesson planning was important, it was no surprise many teachers felt one of the biggest challenges with DI is the time needed to devote to lesson planning. For example, Teacher 10 commented, "I perceive the main challenge is the amount of time it takes to plan and prepare lessons correctly." Teacher 2 discussed the planning, not only for small group teacher led instruction but also what students were doing during independent stations, "I may have to plan for 5 different activities some weeks." Teacher 3 discussed the issue of having the time to analyze assessments to drive the instruction, "Where I find the time challenge comes in is when I'm taking those assessments and looking at them and then making some plans." Teacher 4 addressed the issue of planning for the management piece, in which she must address all the needs of students, not just the activities they will complete with the teacher,

> When I think about differentiated instruction during lesson planning, I think about, what's going to be effective in differentiation, you have to think about how

> it's flowing within your classroom and how you're going to manage, because it's not effective if the kids are all over the place.

Teacher 1 discussed how she plans for DI even during whole group times, such as activities on the carpet.

Another issue with time was the need for administrators to prioritize planning time. Teacher 6 stated that prioritizing planning time for teachers would increase their ability to develop detailed differentiated lessons,

> I feel like, you know, in a primary school, we have our 45-minute block of planning time, but it seems like there's many days that are filled with meetings or, you know, SST meetings or PLC meetings or any, any of those, you know, where a lot of our time's taken away and we're always spending our nights and afternoons and weekends working, so it's like, it never ends.

Teacher 7 felt increased planning time would also improve her ability to create more detailed lesson plans,

> I could use more planning days to be able to come up with these things [DI lessons]. My idea was to give me planning days that were at certain times of the year when it would be good for me to be able to, like, set some of this stuff up.

Teacher 8 discussed how her school is piloting an extended planning time for teachers to collaborate with one another, analyze assessment data, and develop DI lessons,

> Once a month, third- through fifth-grade teachers lose specials because you have a two and a half hour planning block. So, when we have a planning block, our kids go to specials, and then when K-2 would have a planning block, it was the

> opposite of whichever team is collaboratively planning. Your kids are the ones that got extended specials. If you are not collaborative planning, you keep your kids, but we know what it is for, because the 45 minutes didn't work. So, you have a whole two and a half hours to sit down with your team and work. We do that once a month. And so, the teachers like it because they are able to get some work done. They had to record the session and send the recording to the principal, so she could see if they were really able to benefit from it.

Bondie et al. (2019) discussed the importance of administrative support in providing collaborative opportunities and additional planning time for effective DI implementation. Bondie et al. stated when teachers were asked to use DI in isolation, implementation of DI was very low; however, schools that created a culture of collaboration and supported the use of DI planning through support increased academic results and teacher efficacy towards DI.

A fourth area related to time as a challenge is the amount of time within the day specifically meant for DI. Teacher 2 stated, "I feel like as teachers, we all struggle with meeting student needs in the amount of time given for each core area." For this challenge, many teachers discussed the need for an intervention block or a specific set time within the day in which teachers can provide acceleration or remediation activities for students outside of the core standards that must be taught. Teacher 9 explains,

> So, we do ability group or level group from that 8:15 to 9:05 times, so the kids that come to me, they still get solid Saxon phonics, and the group that goes to my co teacher, they get more inferencing or grammar, like deeper into grammar.

Teacher 5 expressed that though small groups are formed often, there are students who need additional support outside of those small groups,

> Not enough time in the day. I think that's the biggest one, is you don't have enough time to really visit [the skills]. Yes, our groups are broken down into four or five kids, but you know, sometimes you could even break it down to two or one to work with them individually on some of that stuff that they need. So, time would be the biggest issue.

A final issue related to time addressed by the participants in this study was the importance of the opportunity and time to collaborate with colleagues. Many participants value the collaborative opportunities to discuss with their colleagues various assessments and instructional approaches. Teacher 1 discussed her meetings with interventionists within her building, and she feels this improves the ability of the team to meet the individual needs of the students,

> We have our monthly RTI meetings, where both of my interventionists sit with me and we complete a spreadsheet each month of the data, we look at the needs, we talk about the classroom grades, classroom work, we look at their scores from progress monitoring.

Teacher 8 explained how professional learning communities are conducted at her school to improve the use of DI,

> There may be a day where we have with me, whatever grade level, as they come in, and we're going over data and strategies and how to group your students and

> what are you going to do with this particular group? What are you going to do with that group?

Teacher 4 emphasized the importance of vertical planning to understand what expectations are in the previous grade and what the expectations are for the upcoming grade, "I have been involved and had the privilege to work alongside various committees and seemed lots of vertical type planning and collaboration."

Goddard and Kim's (2018) study emphasized the importance of collaboration. The results indicated a statistically significant connection between teacher collaboration and teachers' reports that they use DI. Additionally, a statistically significant connection was demonstrated between DI use and teacher efficacy.

The participants' perceptions and previous research support the theme that prioritizing time within the instructional day and preserving planning time for teachers to create detailed lessons plans. Administrators can have an impact on the allocation of time, and this can be a support that is necessary for successful DI. Goddard and Kim (2018) showed that educators are not likely to begin or continue using DI without support. District and school leaders should recognize the kinds of support that teachers need to improve instruction. Creation of time and structures for collaboration is an important support necessary for successful implementation of DI (Goddard & Kim, 2018).

Evidence of Trustworthiness

Trustworthiness demonstrates the quality of the research and the outcome. I supported issues of trustworthiness in several ways. Trustworthiness, or validity, assesses

a study's rigor (Ravitch & Carl, 2021). In this section, I describe how I ensured credibility, transferability, dependability, and confirmability, as suggested by Guba (1981). During data collection, interviews were automatically audio recorded and transcribed to ensure data were accurate. I then verified the accuracy of the transcript by listening to the audio-recording and correcting any errors in the transcript.

Credibility

I used member checks and reflexivity to establish credibility. As mentioned in Chapter 3, member checks allow participants to view the information and ensure that their answers are interpreted correctly. Lincoln and Guba (1985) stated one of the most critical aspects of credibility is member checking. Member checking was appropriate for this study because it prevented researcher bias and assured the credibility of each participant's beliefs, experiences, and perspectives of DI. Motulsky (2021) stated that member checking may enhance the quality of the qualitative study when it uses reflexivity and contains transparent discussions of its rationale and implications. Reflexivity increases the researchers' awareness of their own experiences and bias throughout the research process (Ravitch & Carl, 2021). Throughout the data collection process, I kept a journal on my thoughts of the participants. Once each interview was completed, I wrote up a summary of my interpretation of their perspectives. This was included in the member checking process. This allowed participants to confirm the overall information from the study, as well as my interpretation of their perspectives of DI.

During the review of informed consent and at the conclusion of each interview, I informed participants of the member checking process. I also told participants if there was anything in the information from the study they disagreed with, I would be happy to meet with them again through Zoom, phone, or email. Many participants were pleased to hear they would be able to review information, once it was completed. Data collection took 3 weeks to completed and coding the data to develop themes took an additional week. After all interviews and coding, each participant received a summary of the results and a summary of my interpretation of their interview from the reflexive journal. The summary of each interview included my interpretation of each participant's perception as I recorded my thoughts throughout the interview in the reflexive journal. After sending preliminary results and a summary of my interpretation to each participant, I heard back from three of the participants. These three teachers agreed with the interpretation. Teacher 4 commented,

> I am so impressed! Honestly, this is so interesting reading through, and I can't wait to read and share your finished work. Please let me know when I have permission to share your incredible work with my administrators. Thank you again for allowing me to participate in this special project.

Transferability

Transferability in qualitative research requires the researcher to use thick descriptions and compare results with previous literature. Guba (1981) recommended the research report include the location of the participants, the number of participants, the data collection method, the number and length of interview sessions, and the time of the

data collection. I included all of these in this report to increase transferability. I provided general information about each participant, including the number of years each teacher had taught, their current position, number of years in current position, number of years teaching elementary reading, and the grades the teacher has taught reading. This information will assist the researchers or readers in determining the similarities to their setting. I included direct quotations of participants' responses when discussing the results and findings. I also included the connection to previous research findings and research studies, as described in Chapter 2 literature review.

Dependability

Dependability demonstrates that results are consistent and repeatable (Ravitch & Carl, 2021). To establish dependability, I used an interview protocol to establish consistent procedures across interviews. I also provided consistency within my data analysis process. I used an iterative approach to data analysis by continuously checking participants' statements for similarities and differences, also assigning a definition to each new code to create consistency for the code. I was able to identify patterns and themes from the participants' interviews. I summarized each participant interview with my interpretation of their perception and sent this summary to each participant to check for accuracy (see Appendix B). I checked for discrepancies throughout the study to identify any inconsistencies and reported those discrepant cases in Chapter 4. I further established dependability by proving detailed data collection and analysis descriptions by audio recording the interviews and making the data available for participants' review.

Confirmability

Confirmability is an objective representation of the data with removal of researcher's subjective views. An objective review of the collected data guided the conclusions and interpretations of the study, as suggested by Patton (2015). To ensure confirmability, I used member checks and a reflective journal. Member checks ensured my interpretation of the participants' perspectives was accurate. Additionally, the reflexive journal helped me to monitor my thoughts, where I also wrote a summary of each participant's perspectives. This reduced any bias that I may have towards DI.

Summary

In this chapter, I provided details about the setting, study participants, data collection and analysis, results, and evidence of trustworthiness. The interview data provided answers to the research questions posed in this study. I identified five overarching themes from the data. Following is a summary of the themes by research question.

RQ1: What are elementary reading teachers' perceptions of implementing DI in the classroom?

Theme 1: Teachers believe DI has positive student benefits, despite implementation challenges. Theme 1 indicated teachers felt there were many positive aspects of DI for students. Some benefits include improved confidence, reading progress, and student empowerment. Teachers discussed how they use small group instruction with some remediation or acceleration activities. A few teachers mentioned the importance of students learning from their peers and teaching students within their ZPD or just right

level. Many teachers felt they did not do DI well and were always looking to improve. Overall, teachers felt the challenges of DI were time for implementation and planning, opportunity to work and learn from other colleagues, and behavioral challenges in the classroom. Despite all challenges mentioned, teachers still felt the use of DI was imperative for student success.

Theme 2: Teachers believe the driving force of DI is through a whole child approach. For Theme 2, teachers felt getting to know a child was the most important aspect of DI. Teachers mentioned developing relationships with students allowed them to differentiate for students' learning styles, preferences, and interests. For this theme, teachers also discussed the importance of academic data using formal and informal assessments. Many teachers mentioned specific assessments, such as Acadience and MAP learning continuum. Overall, teachers felt they should get to know the whole child to meet their needs instructionally.

RQ2: What are elementary reading teachers' perceptions of support needed for greater use of DI?

Theme 3: Teachers believe a clear vision for DI, with additional personnel, would improve the use of DI. For Theme 3, teachers felt administrators should provide a clear vision of what was expected for DI. Teachers did not feel that administrators should dictate how teachers should differentiate, they should just discuss what they would look for or what was acceptable during an observation. Teachers also felt the use of additional personnel, both academic and behavior, would improve the implementation of DI. This would allow teachers to meet all the individual needs of a wide range of students. Finally,

teachers discussed the supports a school should provide for use of DI, such as financial support and curriculum support. Many teachers felt the materials they were provided at the school were mostly adequate for implementing DI.

Theme 4: Teachers believe targeted DI training is needed to improve the use of DI. Theme 4 addressed teachers' comments about the need to improve training for DI, both in the school setting and for new teachers coming into education. Many teachers stated they do not recall specific trainings that addressed DI. Several teachers who participated in the gifted endorsement credited this endorsement with providing the most training for DI strategies for both gifted and struggling learners. Many other teachers mentioned the importance of the school providing teachers the opportunity to observe others who are utilizing a DI strategy. Often, teaching can be an isolated profession, and it is difficult to generate new ways of approaching tasks. Most teachers stated the training they received for DI was through their own personal time, such as independent research, endorsements, or graduate degrees.

Theme 5: Teachers believe prioritizing time within the instructional day to implement DI and planning time to develop detailed lesson plans focused on students' needs would improve DI implementation. Theme 5 addressed the support for additional time for instruction and additional time for planning. All teachers stated time was the largest challenge for implementing DI. Some teachers stated time during the instructional day to ensure all students' needs are met was difficult, while others stated, creation of DI lessons are time consuming, and they spend a great deal of their own time developing these lessons. Teachers felt the use of intervention blocks would improve the

instructional time issue. Teachers also felt that administrators should prioritize planning time and reduce the number of required meetings teachers must attend. One teacher mentioned her administrators give extended planning time periodically for teams to collaborate on data and instructional strategies, which could include DI approaches.

In Chapter 5, I restate the purpose and nature of the study. I present a summary of the interpretation of the findings, describe the limitations, and provide recommendations for further research. I also include the implications for positive social change that DI can impact and conclude with insights that capture the study's key essence.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this basic qualitative study was to understand elementary reading teachers' perceptions of implementing DI in the reading classroom and the support needed for the improved use of DI. The problem that prompted this study was a gap in practice exists between reading research that suggested that DI improves student reading and the practices of reading teachers who find differentiating reading instruction challenging to implement. Additionally, previous researchers (i.e., Deunk et al., 2018; Goddard & Kim, 2018; Valiandes & Neophytou, 2018) suggested further examination of teachers' beliefs about DI because there was an insufficient understanding of how elementary reading teachers perceive and implement DI effectively and the support they believe is necessary for improved DI use.

In this study, I conducted one-on-one, semistructured interviews to identify the perspectives of kindergarten through fifth-grade reading teachers regarding DI and the support they believe is needed to improve the use of DI. The participants were teachers from various elementary schools in the United States. Purposive and snowball sampling were used to select 10 participants to provide rich and knowledgeable interview responses to answer the research questions. Limitations associated with the use of the snowball sampling referral method were that participants were from the same geographic location, and the participants were mostly teachers of kindergarten through second grade.

This study's key findings were based on participants' words organized from codes to categories and emerging themes. The key findings reveal that kindergarten through fifth-grade elementary reading teachers perceived DI to be challenging, yet imperative for

students' success. Teachers stated the benefits of DI as reading performance improvements and social/emotional improvements. The challenges they reported included time for implementation and planning, collaboration opportunities, and students' behavioral challenges. Teachers perceived the best way to approach the DI model was from a whole child approach and expressed the importance of a clearly stated vision from school leadership. Teachers also believed additional personnel, such as academic and behavioral interventionists, would improve the use of DI and students' outcomes. Teachers perceived training as limited within the school and believed that increased training on DI would assist teachers in focusing on this strategy. Finally, they believed prioritizing time within the schedule and planning time would aid in improved use of DI.

Interpretation of the Findings

In the following section, I analyze the findings compared with the conceptual framework and peer-reviewed literature described in Chapter 2. The section is organized by the research questions.

RQ1

RQ1 was: What are elementary reading teachers' perceptions of implementing DI in the classroom? This study's first theme was that teachers believe DI has positive student benefits despite implementation challenges. This finding supports previous researchers who concluded that DI can lead to positive student benefits (Alavinia & Vivani, 2018; Deunk et al., 2018; Magabeleh & Abdullah, 2020; Suwastini et al., 2021; Vargas-Parra et al., 2018). Participants discussed that the use of DI improves students' academic performance. Deunk et al. (2018) found DI has a small positive effect on

students' academic performance, while Förster et al. (2018) found students who participated in consistent progress monitoring and DI improved reading fluency, with results remaining stable over a 2-year period. Participants in the current study also discussed use of DI improves students' confidence within the classroom. Aldossari (2018) found classrooms that utilize DI can boost self-esteem. Vargas-Parra et al. (2018) stated that grouping students by readiness can boost students' confidence and collaboration.

Participants in the current study also discussed the benefits of DI, such as providing opportunities for students to learn from their peers and incremental increases in reading level performance. These findings are directly linked to Vygotsky's (1978) social learning theory, which made up part of the conceptual framework of this study. In social learning theory, Vygotsky emphasized the importance of social learning and ZPD. Referring to the ZPD, Vygotsky stated teachers should provide the right number of scaffolds to provide students with supports needed to continuously improve their performance. Participants in the current study discussed that scaffolds, such as leveled text and peer supports, provided students the opportunity to grow without a frustration level of learning.

Additional literature supports the current study findings that DI can be challenging, according to teachers' perceptions (Aldossari, 2018; Suwastini et al., 2021). Participants in this study discussed challenges, such as the lack of administrator vision, increased workload, student behavior, time constraints, and collaboration opportunities. Suwastini et al. (2021) found DI posed challenges, such as time constraints, increased

workload, and possible misunderstanding of DI implementation. Lavania and Nor (2020) revealed students' discipline and motivation can be a challenge when using the DI model. Lavania and Nor further discussed teachers did not receive sufficient support from administrators, which made DI more strenuous to carry out.

The second theme of this study was teachers believe the driving force of DI is through a whole child approach. Participants discussed the importance of getting to know students by developing a relationship with them because it helped to inform the DI opportunities. Suwastini et al. (2021) supports these findings by emphasizing the importance of teachers understanding students' learning styles, learning speed, prior knowledge, readiness, and interests to drive DI. Magableh and Abdullah (2020) posited that through DI, students can be provided with appropriate levels of challenge based on readiness while participating in activities that address their interests and learning profiles. Suwastini et al. stated the importance of allowing students to choose their learning materials and how they learn it.

Participants in the current study also discussed the importance of understanding students' academic abilities through assessments, which also informed DI opportunities. These findings are supported by Doubet et al. (2018) and Roiha and Polso (2021) who stated that teachers must utilize assessments to evaluate students' understanding to inform appropriate instructional opportunities. This finding is also directly related to Tomlinson's (2014) DI framework, which comprised the other portion of the conceptual framework of this study, in which teachers differentiate assessments or products to determine students' level of understanding. Karst et al. (2022) revealed significant

achievement gains for both higher and lower achieving students with the use of data-driven DI. Once teachers understand a child from a whole child approach, then Tomlinson's DI framework can be applied. Participants in the current study discussed various aspects of this framework throughout the interviews, with many sharing the importance of understanding and developing activities and lessons based on students' learning styles and interests. Others discussed the importance of creating a learning environment that provided motivation and a safe place to learn.

RQ2

RQ2 was: What are elementary reading teachers' perceptions of support needed for greater use of DI? A third theme of this study was teachers believe a clear vision for DI with additional personnel would improve the use of DI. Aldossari (2018), Merawi (2018), and Stollman et al. (2019) all revealed the importance of school administration. Aldossari noted teachers believed school administrator interest was needed to use DI, while Merawi revealed challenges for DI included weak administrative support. Magabeleh and Abdullah (2020) and Suwastini et al. (2021) found that DI requires a commitment from leadership to create a school culture with a DI mindset. Tomlinson (2020) stated leaders need to state a vision for DI implementation.

Many participants in the current study discussed the importance of additional personnel to help with running small groups and limiting independent work and reported that students' behaviors often impaired DI. Aldossari (2018) supported the findings that students' behaviors can interfere with the implementation of DI, emphasizing that participants believed students had weak motivation for learning, some preferred

traditional teaching methods, and many students had difficulty adapting to the skills and activities of DI. Participants in the current study mentioned that a great deal of time is spent preparing independent work to engage students. Suwastini et al. (2021) emphasized the importance of commitment from the teacher, school culture, and leadership for successful DI. Overall, this theme is focused on the cultural commitment of the school to utilize Tomlinson's (1999) DI framework.

The fourth theme of this study was teachers believe targeted DI training is needed to improve the use of DI. This finding is supported by several previous pieces of literature. Lavinia and Nor (2020) revealed the most common challenge of DI implementation was the lack of knowledge for implementation. Several participants in the current study discussed the use of DI but stated they had to seek their own understanding through independent research. Merawi (2018) stated teachers have a lack of training for DI, which leads to one-size-fits-all approach. Though all the participants in the current study used DI, because it was one of the requirements for participation, several of them mentioned that others they work with do not use DI due to a lack of understanding. Many participants discussed the important role higher education institutions play in helping new teachers understand how to implement DI. Arnaiz Sánchez et al. (2019) revealed that universities have an important role in developing new teachers with the understanding of how to provide equitable and quality education for all students. Many teachers in the current study mentioned that they participated in various professional development opportunities on their own time and that these opportunities provided them with the knowledge needed to improve their use of DI. Moosa and

Shareefa (2019) expressed the importance of current and preservice teachers receiving targeted training for DI. Moosa and Shareefa further posited that teachers' knowledge is the most significant factor in teachers demonstrating skills for DI. Previous research, along with the findings from this study, support the importance of providing continuous training for teachers on the topic of DI.

The final theme of this study was teachers believe prioritizing time with in the instructional day to implement DI and planning time to develop detailed lesson plans focused on students' needs would improve DI. Brevik et al. (2018), Suwastini et al. (2019), and Merawi (2018) all discussed time constraints as a challenge for DI. Participants in the current study discussed some students need more instructional time, compared to others, to learn material. This is supported by differentiating process, as defined by Tomlinson (2014). Other participants discussed needing more instructional time for providing individual or small group instruction so that students have the appropriate level of instruction. Doubet et al. (2018) stressed the importance of a teacher intentionally grouping students by learning style, interests, or ability. Teachers need time in the instructional day to provide these grouping opportunities, and many participants in the current study stated that planning for DI is time consuming. Aldossari (2018) concurred, finding that the administration of DI is time consuming compared to other methods and requires time and effort for preparation. Several other researchers revealed a major challenge based on teachers' perspectives for DI are the time constraints for preparation (Merawi, 2018; Shareefa, 2019; Suwastini et al., 2021). Previous research

and the current study findings support the need to provide intentional instruction time for teachers to implement DI in addition to the time to plan DI lessons.

Limitations of the Study

I acknowledge that this study had some limitations. In Chapter 1, I considered one limitation of the study was the limited number of participants. This study was limited to 10 participants; however, data saturation was reached with repeated codes presented after the first eight participants. Hennink and Kaiser (2022) suggested that small sample sizes can reveal rich findings with basic qualitative studies. Data saturation occurs when no new information is obtained, and further coding is not necessary (Fusch & Ness, 2015). Data saturation was reached in this study because all codes were repeated by the final participant. However, the sample size only reflects the perspectives of kindergarten through second-grade teachers and one third- through fifth-grade teacher. Therefore, the findings may not be generalizable to the larger population of elementary reading teachers. Interviewing all elementary teachers or secondary teachers could render different results.

The use of snowball sampling may also have been a limitation regarding the diversity of participant views. Since many of the participants were referred from previous participants, many of the participants came from the same geographical area.. Additionally, one requirement of the study was the teacher must use DI in the classroom. Removing this requirement would likely change the results of the study.

Another consideration of a possible limitation mentioned in Chapter 1 is researcher bias. Because I am a reading interventionist in an elementary school with previous experience as a special education teacher, there was the potential for researcher

bias. To help alleviate bias concerns, I used an interview protocol to obtain thick descriptions from participants and a reflexive journal to monitor my thinking throughout the data collection and analysis process. Furthermore, I used member checks to ensure I was interpreting participants' perspectives correctly. Participants were not coerced to share any specific response but were encouraged to freely share their perspective. Interviews were audio recorded and transcribed verbatim to provide the most accurate representation of each participant's responses.

Recommendations

DI has been studied and implemented in classrooms for over 2 decades, yet teachers continue to struggle with implementation of this framework (Bondie et al., 2019). Tomlinson (2020) stated there is significant ambiguity about how teachers should address the range of needs within a classroom. Tomlinson further reported that teachers often enter education with a vague understanding of how to implement a student-centered, responsive classroom. Further research is needed to explore what professional development opportunities provide teachers with practical strategies to use in the elementary reading classroom.

A common challenge mentioned by several participants was maintaining an environment where all students participated in the independent and small group differentiated activities due to inappropriate student behaviors. Creating an optimal learning environment is imperative for the sustainability of the DI framework. Additional research that examines classroom management as it relates to implementation of DI is needed. Lavania and Nor (2020) revealed that student behavior was a challenge

mentioned by many of their participants. An investigation of DI strategies with a focus on classroom management difficulties may assist teachers in reducing disciplinary challenges and increasing student performance.

Finally, I recommend further research be conducted to identify teachers' effectiveness in planning DI for English language learners. Many participants in the current study discussed differentiation for gifted or higher achieving students and differentiation for lower performing students, but only one teacher discussed differentiation for English language learners. Previous research has demonstrated the use of DI with the aid of technology to increase background knowledge on specific topics improves English language learners' reading performance (Prescott et al., 2018). It is unknown how knowledgeable teachers are about providing DI strategies for English language learner students.

Implications

This study's results offer potential implications for positive social change with students, teachers, administrators, and district leaders. A social change could occur by using the results from this study to assist elementary, kindergarten through fifth-grade, reading teachers in planning reading instruction that effectively improves reading achievement. Researchers have established that DI improves reading outcomes for students (Deunk et al, 2018, Förster et al., 2018; Smale-Jacobse et al., 2019). Reading teachers could use this study's results to determine effective DI strategies to implement within their classrooms. Also, teachers could reflect on their knowledge of DI and determine ways to improve their instructional practices.

This study's results could provide information that may help administrators and district leaders understand the need for professional development around DI and DI strategies for teachers. Stollman et al. (2019) emphasized the importance of differentiated professional development for educators. Teachers need time to develop DI practices. Furthermore, Dennis and Hemmings (2019) recommended job-embedded professional development. The participants in this study stated job-embedded training is limited or nonexistent. This study's results urge district and building leaders to provide more targeted instruction and support for DI practices. Improved DI practices have the potential to lead to better performance on achievement measures.

Participants mentioned the importance of collaboration opportunities to improve DI practices. The results of this study highlight the importance of providing these collaborative opportunities. Previous research supports the use of collaborative opportunities demonstrating a direct connection to implementation of DI and collaboration with colleagues (Goddard & Kim, 2018; Stollman et al., 2019).

Conclusion

In this basic qualitative study, I 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. Ten elementary reading teachers across several school districts were interviewed to understand their perception of DI. All participants utilized DI and, despite the challenges, would continue to use this practice because they believe the use of DI is what has led to improvement in achievement and confidence in students. Challenges teachers experienced were time

consuming for implementation and planning, increased workload to plan for individual needs, interfering behaviors, limited training opportunities, and lack of administrative vision.

Teachers reported use of DI developed from a whole child approach, in which teachers got to know students' personal likes and learning styles, as well as their academic strengths and weaknesses. Teachers reported using various assessments to understand students learning needs to use data-driven instruction. Teachers reported the positive outcomes of using DI included increased student engagement, student-centered approach, improved learning environment, improved reading performance, and increased confidence and motivation. Instructional approaches used by all participants included small group ability grouping and remediation or acceleration activities. Tomlinson's (2014) DI framework and Vygotsky's (1978) social learning theory were evident throughout data collection. Teachers discussed the importance of providing social learning opportunities with scaffolded supports. Teachers also discussed differentiation for all components of Tomlinson's model—content, process, product, and learning environment—while addressing students' readiness, interests, and learning profile.

The supports reported by teachers to improve the use of DI practices included administrators stating a clear vision for DI, increased use of personnel to assist with small group and behavioral needs, targeted DI training, and preserve instruction time to implement DI and time for planning of DI lessons.

The results of this study suggest the need for ongoing professional development and training for DI, including behavior management strategies. Additionally, this study

suggests the need for a common vision from administration on DI practices. Finally, the results of this study suggest teachers need collaboration opportunities to improve DI practices. Teachers' self-efficacy has the potential to improve with increased collaboration with colleagues and support from building leaders. Improved self-efficacy leads to student growth (Grecu, 2022). When teachers have a clear understanding of DI practices and are provided with a common understanding, they have the potential to increase elementary students' reading achievement.

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Appendix A: Interview Protocol

Title of Study: Elementary Reading Teachers' Perceptions of Implementation of Differentiated Reading Instruction

Name of Person Interviewed: _____

Date: _____ Time: _____

Interviewer: Elizabeth McLemore

Greeting:

Thank you for your time and for agreeing to participate in this interview session for my doctoral study. My name is Elizabeth McLemore, and I will be conducting this interview. I am currently an elementary reading teacher in a school in southeastern U.S. By participating in the interview, you will provide me with the opportunity to collect information associated with my study. You were invited to participate 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 on their ability to differentiate reading instruction and strategies. Please remember that your participation in this study is confidential and voluntary. Your name and all personal information will remain private. Please also remember you may withdraw consent at any time during the process, and I will immediately destroy all your information and properly discard it.

The duration of this interview will be 40 to 60 minutes, and with your consent, it will be and 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 about this study or any information I have provided before I begin to record?

Checklist:

____Participant submitted consent via email.

____Participant is interested in moving forward with study participation. (If not, stop here, thank participant, and follow procedures to destroy participant information.)

Interview Norms:

Speak from the I perspective.

Please refrain from disclosing others' personal information, including their names and roles at the school.

Please ask clarification if a question does not make sense to you.

Please remember you may cease participation in this study at any time.

"Do you have any questions before we proceed? Do you wish to proceed?"

Background/Purpose:

"This interview is designed to help me gain a better understanding of your thoughts, ideas, and perceptions about differentiating reading instruction and strategies for students in a reading classroom and support you feel that would help improve your use of differentiated instruction. I encourage you to share freely, providing as many details as you can. I will be taking notes and this interview will be recorded so I don't miss anything. You will notice that I will be looking at you and looking down at my notes, but

please know I am paying attention and appreciate what you have to say. I will also be reading questions I prepared ahead of time. However, I might also ask follow-up questions if I need you to clarify a point or want more information."

"Do you have any questions? Do I have your permission to proceed with this interview and recording?"

General Questions:

1. How long have you been an educator?
2. What is your current position within the district, and how long have you been in that position?
3. How long have you taught elementary reading in public schools? What grades?

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

1. What does differentiated instruction mean to you?
2. How would you describe your experience with differentiation in the classroom?
3. How do you think differentiated instruction, when implemented in the classroom, improves students' reading progress?
4. Describe a time when using differentiated instruction improved a student's reading performance in your classroom.
5. Describe how you think about differentiated instruction during lesson planning.

Interview questions to address RQ2: What are elementary reading teachers' perceptions of support needed for greater use of differentiated instruction?

1. What do you perceive as the main challenges to providing differentiated instruction in the classroom?
2. Explain any training you have received regarding differentiated instruction and the instructional strategies presented during these trainings.
3. What support does your school provide to support the use of differentiated instruction?
4. What support do you feel would assist you in greater use of differentiated instruction?

Additional Questions:

1. Is there any additional information that you would like to share with me to assist in helping me to further understand your perceptions of differentiating reading instruction and strategies for students?
2. Is there anything that you want me to explain to you about this research before we close out this interview session?

Possible follow-up prompts that I will keep visible as I interview each participant:

1. What did/do you mean by…..?
2. Tell me more about…..
3. You mentioned….. Tell me more.
4. Can you expand more on…..?
5. Please give me an example of when that …. worked/did not work.

Closing:

“Thank you so much, again, for your time today. I appreciate you participating in this study and providing me with your open and honest feedback. I want to remind you that your responses will be kept confidential, and you may still withdraw participation at any time. I will follow up with you to review my notes, transcription, and interpretations so you may review them for accuracy. Do I have your permission to contact you for a follow up/debrief call? Thank you and have a wonderful day!”

Appendix B: Interview Summaries Emailed to Each Participant

The following is a summary of the results from the interviews. Following the summary is an overview I wrote after your interview of what I felt your overall main points were. If you do not agree with any part of either of the summaries, please feel free to reach out to me via email. We can set up a follow up conference or you can just state your clarifying thoughts through email. Again, thank you so much for participating in this study. I greatly enjoyed listening to your perspective on differentiated instruction and feel your students are lucky to have you as a teacher.

The way this data was created was I went sentence by sentence and gave an initial code to that comment. For example, when you answer the question about what is differentiated instruction (DI) I coded that first stated as DI definition. After all initial first codes were created, I combined those codes into categories or 2nd cycle codes. Then once all initial codes were placed under a 2nd cycle code, I grouped those ideas into themes. The data produced 5 Themes. Below each theme a chart shows the 2nd cycle code at the top with some of the more frequently used 1st cycle codes for that category.

Overall Themes from the Study

Theme 1: Teachers believe differentiated instruction has positive student benefits despite implementation challenges.

Components of DI	Positives of DI	Instructional strategies	Vygotsky's framework	Teachers' emotions	Challenges of DI
DI definition	Builds confidence	Small group instruction	Learning from peers	Desire to improve	Time for implementation
Meeting students' needs	Improves reading progress	Remediation	Independent reading levels	Feel inadequate	Time for planning
Not one-size-fits-all	empowerment	acceleration		Positive impact on the teacher	Collaboration with others
				Love this structure	Behavioral challenges

This theme teachers discussed the positive aspects for students that DI allows. Some benefits include improved confidence, reading progress, and empowerment of students. Teachers discussed they use small group instruction with some remediation or acceleration activities. A few teachers mentioned the importance of students learning from their peers and teaching students within their zone of proximal development or just right level. Many teachers felt they did not do DI well and were always looking to improve. Teachers overall felt the challenges of DI was time for implementation and planning, opportunity to work and learn from other colleagues, and behavioral challenges in the classroom.

Theme 2: Teachers believe the driving force of differentiated instruction is through a whole child approach.

Data-driven instruction	Knowing a child	Tomlinson's framework
Data usage for DI	Relationship with student	Learning styles
Assessment examples	Student motivation	DI for preference
Learning continuum	Whole child approach	DI for environment
		DI for interests
		Differentiate product

For Theme 2 teachers felt getting to know a child was the most important aspect of DI. Teachers mentioned developing relationships with students allowed them to differentiate for students' learning styles, preferences, and interests. For this theme teachers also discussed the importance of academic data through the use of formal and informal assessments. Many teachers mentioned specific assessments such as Acadience and MAP learning continuum. Overall, teachers felt they should get to know the whole child in order to meet their needs instructionally.

Theme 3: Teachers believe a clear vision for differentiated instruction with additional personnel would improve the use of differentiated instruction.

Support needs for DI	Administrator Impact	School-Provided Supports for DI
Interventionists supports	Administrator importance	School supports for implementing DI
Additional personnel	Stating a vision	Curriculum supports for DI
Behavior interventionists	Expectation not clear	
More money		

For Theme 3 teachers felt administrators should provide a clear vision of what was expected for DI. Teachers did not feel that administrators should dictate how teachers should differentiate they should just discuss what they would look for or what was acceptable during an observation. Teachers also felt the use of additional personnel, both academic and behavior, would improve the implementation of DI. This would allow teachers to meet all the individual needs of a wide range of students. Finally, teachers discussed the supports a school should provide for use of DI such as financial supports and curriculum supports. Many teachers felt the materials they were provided at the school was mostly adequate for implementing DI.

Theme 4: Teachers believe targeted differentiated instruction training is needed to improve the use of differentiated instruction.

Training provided at school	Novice teachers & DI	Trainings for DI	Training for data usage	Self-initiated training
Coaching	Novice teachers lack understanding	Support need training for DI	Data not utilized for DI	PD self-initiated
Colleagues as support	Support provided for new teachers	Trainings for specific intervention	Peers lack data skills	DI training through endorsements
Teachers learn through observation	Support of a mentor	Fidelity vs Faithfulness	Challenge of using data	
DI training from district	Support need training from college	Examples of DI strategies learned at training		
Lack of training				

Theme 4 addressed teachers comments about the need to improve training for DI both in the school setting and for new teachers coming into education. Many teachers stated they do not recall specific trainings that addressed DI. Several teachers who participated in the gifted endorsement credited this endorsement with providing the most training for DI strategies for both gifted and struggling learners. Many other teachers mentioned the importance of the school providing teachers the opportunity to observe others who are utilizing a DI strategy. Often teaching can be an isolated profession and it is difficult to generate new ways of approaching tasks. Most teachers stated the training they received for DI was through their own personal time such as independent research, endorsements, or graduate degrees.

Theme 5: Teachers believe prioritizing time within the instructional day to implement DI and planning time to develop detailed lesson plans focused on students' needs would improve DI implementation.

Challenges of Planning	Importance of Planning	Time and Planning Supports
Need more planning time	Planning is important	Intervention block
Preserve planning time	Begin with the standard	School provides extended planning time
DI is time consuming	Plan for engagement	
Collaborative planning time	Lesson plan details	
Vertical planning time		

Theme 5 addressed the support for additional time for instruction and additional time for planning. All teachers stated time was the largest challenge for implementing DI. Some teachers stated time during the instructional day to ensure all students' needs are met was difficult while others stated, creation of DI lessons are time consuming and they spend a great deal of their own time developing these lessons. Teachers felt the use of intervention blocks would improve the instructional time issue. Teachers also felt that administrators should prioritize planning time and reduce the amount of required meetings teachers must attend. One teacher mentioned her administrators give extended planning time periodically for teams to collaborate on data and instructional strategies which could include DI approaches.

Teacher 1

Teacher 1 feels DI is challenging yet important. She believes in meeting students' needs through data-driven instruction in small groups. She also believes proficiency in DI is ever-evolving, and teachers must be willing to grow and learn from each other. Teacher 1 feels if teachers do not use DI, then they may negatively impact a child's progress. She feels many teachers become stuck in their old ways and do not use data to drive instruction nor accept coaching help willingly. She believes instructional planning begins with the standards and then differentiate from there. Teachers should plan for all components of the day, whole group, small group, and independent, with a DI lens. The teacher feels although DI can be overwhelming, there are many positive outcomes. This teacher also discussed the positive and negative impacts administration plays with DI and school climate.

Teacher 2

Teacher 2 believes DI is addressing remediation and acceleration of students' needs. This teacher uses data to meet students' needs through small-group instruction. She believes there are many positive impacts of DI, including increased reading scores and confidence. Teacher 2 addresses how DI can also positively impact EL students. Teacher 2 discussed the importance of having detailed lesson plans to meet students' needs, but feels these lesson plans are very time consuming. The main challenge expressed by Teacher 2 is time. She feels the school has done a good job providing training on remedial programs to address remedial needs. Teacher 2 did express a feeling of inadequate when it comes to teaching with a DI model. Teacher 2 uses DI to address students' preferences, behavioral challenges, and also differentiates the environment through flexible seating options. This teacher feels additional personnel would support the use of DI.

Teacher 3

Teacher 3 believes differentiated instruction is using detailed lesson plans to meet students' needs. Teacher 3 discussed how the classroom has evolved over the years and more and more teachers are utilizing this method of meeting individual needs. She believes teaching using DI as a method leads to more progress and success of students even though DI is a lot of work. Teacher 3 discussed the importance of using data to

drive instruction. Teacher 3 also mentioned the importance of students working with each other to learn. Teacher 3 emphasized the importance of building relationships with students to understand them personally and academically. Teacher 3 believes some of the challenges of DI include time for planning and working with the kids and keeping students engaged productively when working with others. This teacher stated most of her professional development for DI has been self-initiated by attending trainings not provided by the school; though, she did mention her school was supportive of those efforts and offers to provide financial support to attend these trainings. Teacher 3 believes additional consistent support is most beneficial in ensuring DI runs smoothly.

Teacher 4

Teacher 4 expressed many times her passion for DI and how it is the driving force in her classroom. She believes DI meets students' needs for both remediation and acceleration. She feels DI has many positive impacts on students both academically and social/emotionally. Teacher 4 discussed the importance of teachers really knowing their students by reviewing the data from the previous year, looking at current data, and developing a relationship with the student. This teacher discussed the importance of relationships so a teacher is able to differentiate by students' interest which increases student motivation.

Teacher 4 discussed the importance of teachers observing and learning from other teachers. She felt this was one of the most impactful ways for teachers to change their practice. She also mentioned attending different endorsements provided through the district and she felt she learned many strategies for DI that she has implemented in her classroom.

Teacher 4 went into great detail about how she differentiates her phonics and reading time. Each segment has students in 3 small groups. Each group is planned for based on needing remediation, on-level instruction with few reminders, or acceleration group who needs to push past the current learning target.

Teacher 4 discussed the lack of knowledge of new teachers coming into the classroom on ways to implement DI. She stressed that over the years she has evolved and is able to teach a given curriculum, but make necessary changing to the layout of the program to meet the needs of her students. She called this fidelity versus faithfulness. She said many new teachers teach with fidelity without straying from the script, while she approaches the curriculum with faithfulness in which she keeps the core structures and standards, but the timing and presentation may be slightly different to meet her students' needs.

Another challenge teacher 4 discussed was student behavior. She felt like one of the most important parts of planning was the management piece. Teachers must not only think about the activities they are going to work on during small group, but also what are the other students doing when they are independent. She stated that often there are students who seem to have difficulty with the structure of the room which makes it difficult for her to provide the DI that she wants.

Teacher 4 believes supports needed include behavior interventionist, training for DI, and observation opportunities. She also believes teachers need to be willing to grow professionally and not get stuck in their old ways.

Teacher 5

Teacher 5 believes DI is meeting students' needs in just the right place to challenge them yet not frustrate them. She stated that DI drives her instruction and she structures most of her time in small groups. Teacher 5 believes DI has a positive impact and can empower students. Teacher 5 provided some examples of ways to use technology to individually differentiate for students.

Teacher 5 stated some of the challenges of DI are time and the need for additional personnel. She feels the school day sometimes there is not enough time to meet all the needs in the room because sometimes kids need one-on-one support. She feels additional personnel to meet with students would help with this issue.

Teacher 5 believes there is a lack of DI training for teachers and schools should offer more targeted instruction for DI strategies. She also stated there is a need for behavior interventionist to address specific individual children who have behavioral needs.

Teacher 5 believes a common vision set forth by the administration would clear up confusion about what DI model should look like and help new teachers.

Teacher 6

Teacher 6 believes DI should meet students' needs using data, small groups, and acceleration from a whole child approach. Teacher 6 discussed the importance of developing relationships with students. She feels use of DI can have a positive impact on students. She expressed DI can improve behavioral challenges.

Teacher 6 discussed instructional strategies for DI was learned through endorsements. This teacher discussed several instructional strategies she learned to accelerate learners who have already met the learning target. Some examples including creating slide presentation, doing research, and choice boards.

Teacher 6 discussed the positives and negatives of departmentalization for DI. She did not say which one was more conducive for DI but simply they both had pros and cons. Teacher 6 states the school provides supports through curriculums, interventionists, and remedial programs. She felt a challenge of DI was the lack of training targeting DI. She also stated the DI planning was time consuming. She believes the school could support the use of DI with behavior interventionist and preserving planning time.

Teacher 7

Teacher 7 believes DI is about meeting student's needs by looking at data, creating detailed lesson plans, and activities that challenge students but do not frustrate them. Teacher 7 discussed the use of a grade-level intervention block in which students participated in DI to either remediate or accelerate their understanding of reading targets. Teacher 7 believes in using DI throughout the day for instruction and in homework. Teacher 7 discussed her personal motivation for using DI stems from her own struggles as a child in school. She believes there are negative consequences for a child if a teacher does not use DI.

Teacher 7 discussed a great deal about the partnership between the family and the school. She believes without this partnership students will not progress as quickly and as far. She believes equally in the importance of student motivation.

Teacher 7 structures her class with small groups based on needs as shown by assessments and observation. She believes in the importance of building background knowledge for students to increase their independence during these small group rotations.

Teacher 7 believes teachers may not use DI as often because it can be overwhelming with too many resources to choose from and a lack of training. She feels new teachers are especially impacted by the challenges. She also feels teachers may not use DI due to interfering behaviors from students.

Teacher 7 discussed most of her knowledge about DI comes from endorsements she has participated in. In these trainings she feels she was able to learn how to use data to drive instruction. Teacher 7 also discussed the importance of using colleagues as support and collaborative planning meetings.

Teacher 7 stated supports needed to improve the use of DI would be money to purchase materials for DI and additional planning time. She also feels teachers need to be willing to grow professionally and additional support should be provided for new teachers. Furthermore, she believes colleges should prepare teachers more for the classroom by helping them experience more DI strategies and how to use data to drive instruction.

Teacher 8

Teacher 8 discussed DI as meeting students' needs through different learning styles such as auditory or tactile learning. Teacher 8 discussed the importance of planning in advance for DI activities and anticipating possible misconceptions or different acceleration opportunities. Teacher 8 believes DI can have a positive impact on students and the teacher. She provided an example of how DI has helped to build the confidence for one student to begin to read to the class and participate. She stated the importance of creating a safe learning environment in which students felt comfortable making mistakes.

Teacher 8 discussed the use of the flipped classroom model as a remediation activity. She discussed the importance of colleagues leaning on each other for support.

Teacher 8 stated some challenges include limited collaboration opportunities and creation of DI lesson plans are time consuming. She also discussed the unique situation at her school with a high number of teachers as nontraditional teachers without teaching certificates or educational pedagogy. Because of this, a great deal of professional development is provided at the school for DI strategies along with how to present material to students. Consultants have been hired to help work with the teachers on DI implementation.

Teacher 8 believes additional supports needed include additional personnel to work with the students, support for the nontraditional teachers, and extended planning times.

Teacher 8 concluded with an example of a teacher who used DI in her lesson by having all students complete the same quiz and then based on results they were given differentiated task. All of this was completed digitally.

Teacher 9

Teacher 9 believes DI is about meeting students' needs and uses fluid grouping in which students are continuously moving groups based on their needs as shown in the data. Teacher 9 discussed a previous curriculum she taught that was rooted in DI model. This experience has helped her structure her classroom in a similar manner. Teacher 9 utilizes small group instruction based on various data points.

Teacher 9 discussed the importance of interventionist support. She also discussed the use of Accelerated Reader as the driving force for DI independent reading. She believes the use of this program not only improves a student's independent reading skills but students are motivated by the rewards and challenges this structure provides.

Teacher 9 expressed having such a wide range of academic abilities in her classroom was a great challenge and believes students should be grouped more academically similar. She did mention she partners with a teacher and provides students with ability grouping for phonics block.

Teacher 9 expressed the importance of interventionist support and felt additional support would be beneficial. She feels the state standards are inappropriate for the grade she teachers and feels these should be addressed.

Teacher 9 feels teachers learn a great deal about DI through observation. New teachers lack the understanding of how to implement DI and observations would improve their understanding. She also stated that her understanding and proficiency with DI is ever evolving.

Teacher 10

Teacher 10 stated DI was the ability to meet students' individual needs. She expressed the importance of meeting their needs through student interest and learning styles. Teacher 10 discussed the importance of using data to drive DI. She stated she uses small group instruction and loves to provide students the opportunity to learn from one another. Teacher 10 stated DI can be overwhelming and sometimes she feels she is inadequate at tackling this daunting task. She stated additional personnel may would help with this challenge. She also discussed DI lesson planning can be very time consuming and often teachers do not have the training or understanding to implement effectively. She stated that much of her training has been self-initiated and not provided by the school. An additional challenge is time to collaborate with colleagues about DI and student needs. Teacher 10 felt a support for DI would be additional training.

Appendix C: Data Collection Timeline

Timeframe	Data Collection Task
Weeks 1-2	• Recruitment of study participants with an online Social Media Flier. • Upon communicated consensus agreement of each participant, an invite using Calendly an online software used to schedule meetings. The invite included the consent form in which participants reviewed and replied "I consent" agreeing to the terms. • The initial invite also allowed participants to select an interview time convenient for them and answer 3 general questions about themselves to ensure they met the criteria for the study.
Week 2-3	• Interviews conducted through Zoom. • Debriefing and closure with participants, reminding each of data privacy, anonymous participation in the research analysis and reporting, and security of all documents, with the shredding of all data collection after completion. • Participants sent $20 gift card for participation appreciation. • Participants asked to provide names of additional participants that meet the criteria for the study. • Continuation of recruitment of study participants through recommendation of participants.
Weeks 3-4	• Finished Zoom interviews. • Reflexive journal. • Preparations of interview transcripts for approval and clarifications. • Data analysis.
Week 5	• Sent transcripts and summary of reflective notes to each member for member checking. • Continue data analysis.
Weeks 6	• Data analysis finalizing. • Discuss findings with committee chair. • Receive feedback from participants on summaries (three responded they agree with the findings).