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Tier 2 Interventions for Students in Grades 1-3 Identified as At-Risk in Reading

Jennifer S. Ray
Walden University

Walden University

College of Education

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Jennifer Ray

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Dr. Julie Frese, Committee Member, Education Faculty
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Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
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Abstract

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by

Jennifer Selene Ray

MA, Simpson University, 2004

BS, Abilene Christian University, 1998

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

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June, 2017

Abstract

The majority of Grade 4 students in the United States do not read at the proficient level. In response to this problem, which has persisted for decades, the United States Congress in 2004 mandated response to intervention as a multitiered classroom support system designed to improve reading skills for students in K-12 public schools. However, little research has been conducted about how classroom teachers use diagnostic assessments, provide small group instruction, and monitor progress in reading interventions. The purpose of this qualitative study was to examine how teachers used assessments and instruction in reading interventions for students in Grades 1-3 who were at-risk in reading. The conceptual framework was based on Vygotsky's theory of cognitive development related to the zone of proximal development. A single case study design was used to collect data from multiple sources, including teacher interviews, observations of interventions in reading, and related documents. Participants included 3 teachers in Grades 1-3 from an elementary school located in a western state. Data analysis involved coding and constructing categories for each data source and examining categorized data for themes and discrepancies. Results showed that teachers in Grades 1-3 used various diagnostic assessments and classroom observations to place students at-risk in reading in interventions, and they also used various diagnostic, formative, and summative assessments to inform their instruction. In addition, participants used a scaffolding process that involved contingency, fading, and transfer of responsibility to provide instruction for these students. This research contributes to positive social change by advancing knowledge about how to improve reading intervention instruction so that students at-risk in reading may better contribute to society as literate citizens.

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Dedication

I dedicate this dissertation to my three angels—Amanda, Philip, and Matthew—who helped teach me the art of reaching and teaching students who struggle in learning literacy skills, and who only encouraged me when I attended their extracurricular activities with research to read and analyze. I also dedicate this dissertation to my parents, Bob an industrial arts teacher who struggled in learning how to read, and Jan, a registered nurse, who taught me the importance of volunteering and teaching others.

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Chapter 1: Introduction to the Study

According to the National Assessment of Education Progress (NAEP), many public school students in the United States struggle to achieve proficiency in reading by Grade 3 (NAEP, 2013). In the western U.S. state where this study was conducted, 54% of Grade 3 students failed to meet the *proficient* level for reading in 2013 (State Department of Education). Reading achievement for Grade 3 students in 2013 was only 3% higher than it was in 2009 (State Department of Education). Students in this state are not assessed nationally in reading until Grade 4, at which time students are required to take the NAEP.

States that receive Title 1 funds must participate in biennial NAEP reading and mathematics assessments for students in Grades 4 and 8 (No Child Left Behind Act, NCLB, 2002). In 2013, 66% of all Grade 4 students in the United States failed to meet the *proficient* level in reading on the NAEP. In the state that was included in this study, 31% of all Grade 4 students scored at the *basic* level in reading on the NAEP, and 42% scored at the *below basic* level in reading. The number of Grade 4 students in this state who achieved proficiency in reading on the NAEP increased only 4% from 2007 to 2013.

To address the problem of low proficiency in reading the federal government in the United States has required all public school educators to implement an instructional model known as Response to Intervention (RTI) in order to provide support for K-12 students who are at risk of academic failure in core academic subjects, including reading (Fuchs, D., Fuchs, L. S., & Stecker, 2010; National Center for Learning Disabilities

(NCLD), 2015). The RTI model was first mandated as part of No Child Left Behind Act (NCLB) mandated in 2002 and the Individuals with Disabilities Education Improvement Act (IDEA) mandated in 2004. The RTI model includes three tiers of intervention for these students (NCLD, 2015). In Tier 1, all students receive high quality instruction from general education teachers, who are required to provide differentiated instruction for students based on their individual learning abilities. In Tier 2 interventions, a reading specialist or a general education teacher provides more intensive instruction in small group sessions, and grade level or department level teams monitor student progress weekly. At the end of the intervention treatment, these teams determine student readiness for Tier 1 or Tier 3. Students who do not make adequate progress in Tier 2 move to Tier 3, where they are usually referred to a licensed specialist, such as a school psychologist, for further assessments to determine how to better meet their learning needs. Tier 3 instruction is more intense, targeted at students' learning needs and is provided in one-on-one settings.

Some RTI models are structured so that special education teachers and other specialists develop and monitor an individual educational plan (IEP) for students identified for Tier 3. In all tiers of instruction, teachers are encouraged to scaffold instruction. This means that teachers should continually assess student progress to provide the appropriate support "that enables a child or novice to solve a task or achieve a goal that would be beyond his unassisted efforts" (Wood, Bruner, & Ross, 1976, p. 90).

The RTI model is structured to meet the unique learning needs of individual students at each site.

A lack of research exists, however, concerning how elementary school teachers use assessments and instruction in Tier 2 reading interventions, particularly in the early grades (Coyne et al., 2013; Kerins, Trotter, & Schoenbrodt, 2010; Little et al., 2012; Spörer, Brunstein, & Kieschke, 2009; van de Pol & Elbers, 2013). To address this gap in the literature, in this study I explored how teachers used assessment and instruction in Tier 2 interventions for students in Grades 1-3 who were identified at-risk in reading. Study findings may help educators to develop a deeper understanding about how to improve the reading skills of primary students who have been identified as at-risk in reading. Their doing so may contribute to positive social change as U.S. democracy depends on a literate citizenry.

In this chapter, I present background information about the scope of research related to reading interventions for students at risk in reading. The focus of my problem statement, which follows, is on the lack of research regarding Tier 2 interventions at the primary school level. I also present the purpose, research questions, and conceptual framework of my study. In addition, I present a brief overview of the research method, the assumptions and limitations, and the significance of this study.

Background

Researchers have conducted several studies on reading interventions, including the RTI model, for primary students identified as at-risk in reading. Cole (2006), for

example, examined scaffolding for beginning readers in relation to the cues that teachers use to improve students' oral reading skills. Cole found that teachers use different types of scaffolds, including praise and affirmations, interruptions during the process, and gestural marking behaviors. Cole suggested that more research is needed to determine the types of scaffolding that are most effective for beginning reading instruction. Dehqan and Samar (2014) investigated reading comprehension in a socio-cultural context and found that students who use peer and teacher scaffolds during reading comprehension instruction learn how to comprehend text at a higher rate than students without this instructional support. Frey and Fisher (2010) explored the types of scaffolds elementary classroom teachers rely on during small group reading instruction and found that teachers use questions, cues to focus student attention, and prompting to elicit cognitive and metacognitive knowledge. Rupp and Lesaux (2006) investigated a standards-based assessment of reading comprehension and found that these assessments have a limited use for diagnostic decision making in relation to intervention instruction. Huberman, Navo, and Parrish (2012) examined effective practices in high performing school districts serving students in special education and found that high performing school districts demonstrated the following: (a) included special education students in regular classroom instruction, (b) encouraged teacher collaboration between regular and special education teachers, (c) assessed student academic progress frequently, (d) used the RTI model for intervention instruction, (e) provided professional development in special education services in particular, regular and special education teacher collaboration and integration

of special education students in the regular classroom, and (f) supported explicit direct instruction. Huberman et al. recommended that teachers use RTI strategies to respond more effectively to student learning needs and to decrease the number of student referred to special education services. Huberman et al. also recommended that more in-depth research be conducted to determine the types of assessments teachers should use to inform instruction. Fuchs, D., Fuchs, L. S., and Stecker (2010) discussed the blurring of special education in a new continuum of general education placements and services and recommended that special education be redefined in terms of providing services for the most intensive instruction, only after instructional efforts have been exhausted in Tiers 1, 2, and 3. Kashima, Schleich, and Spradlin (2009) examined the core components of RTI, particularly in relation to evidence-based core curriculum, progress monitoring, and data-based decision making and found that teachers commonly use curriculum-based measurements as intervention probes. Kerins, Trotter, and Schoenbrodt (2010) explored the effects of Tier 2 interventions on literacy measures and found that the extra hours of instruction students in Tier 2 received beyond classroom instruction was not significantly beneficial. They recommended that teachers develop a clear understanding of the core reading program that they are using to provide more effective instruction and assessment. Schatachneider, Wagner, and Crawford (2008) discussed the importance of measuring growth in response to intervention models and recommended that more research be conducted on assessments used in RTI models that can be used to predict students' reading performance. Spear-Swerling and Cheesman (2012) examined research about

what teachers should know before implementing RTI and found that teachers are lacking in knowledge about assessment measures and instructional practices related to RTI. In addition, Spear-Swerling and Cheesman found that experienced teachers often lack knowledge about phonemic awareness, phonics, and reading development in general.

Despite this research, however, a gap still exists in knowledge about how teachers provide Tier 2 reading instruction for primary students identified as at-risk in reading. One reason that few studies have been conducted on this topic is that RTI was first mandated in 2001 as part of a regular education bill (NCLB, 2002; Fuchs, D., Fuchs, L. S., & Stecker, 2010). RTI was also mandated in 2004 as part of a special education bill (Fuchs et al., 2010; IDEA, 2004). This federally mandated model was designed to give school district educators the freedom to choose their curriculum and measurement practices. Therefore, limited research has been conducted about RTI instructional practices that are most effective in improving student achievement (Denton et al., 2011; Goss & Brown-Chidsey, 2012; Holmes, Reid, & Dowker, 2012; Hooper et al., 2013; Reynolds, Wheldall, & Madelaine, 2011). Another reason for a lack of research on RTI is that researchers have focused on the implementation process at the upper elementary and middle school levels but not at the primary school level (Nese, Park, Alonzo, & Tindal, 2011; Scholin & Burns, 2012). I addressed this research gap by exploring how teachers used assessment and instruction in Tier 2 interventions for students in Grades 1-3 who were identified at-risk in reading, particularly in relation to the diagnostic

assessments teachers used to determine intervention placement, the scaffolding process they used to provide instruction, and how they monitored student progress.

Problem Statement

One of the major problems with the implementation of RTI is a lack of fidelity in implementation of the model. This means that general education teachers who provide interventions in the classroom need to demonstrate an accurate understanding of the RTI model in order to implement it effectively, particularly in relation to how they should use diagnostic assessments, instructional practices, and progress monitoring at each level of intervention (Fuchs, D., Fuchs, L. S., & Stecker, 2010; Kashima, Schleich, and Spradlin, 2009; Schatachneider, Wagner, & Crawford, 2008; Spear-Swerling & Cheesman, 2011). Spear-Swerling and Cheesman (2011) explored teachers' knowledge base for implementing RTI in reading. They found that teachers lack knowledge about how they can use classroom assessments as well as other criterion-referenced assessments to inform instruction for interventions. In exploring teachers' knowledge foundations for teaching reading and spelling, Moats (2009) concluded that teachers lack knowledge of morphology and phonology and how to use assessments to predict future reading abilities. Therefore, teachers may lack the knowledge necessary to implement the RTI model with fidelity.

Significant research has also been conducted in reading on how elementary school teachers in Grades 4 and 5 use curriculum-based measurements to monitor student reading progress in the RTI model. Nese, Park, Alonzo, and Tindal (2011) explored

applied curriculum-based measurements as a predictor of high-stakes assessment outcomes and found that vocabulary and comprehension scores are better predictors of state testing scores in Grades 4 and 5 than fluency measures to determine reading deficits. Scholin and Burns (2012) examined the relationship between pre-intervention and post-intervention reading fluency and student growth in Grades 3-5 and found that educators should be cautious in using baseline measurements to move students directly into Tier 3. Henley and Furlong (2006) investigated teacher use of progress monitoring data to determine reading progress in Grades 2-5. They found that when teachers only used oral reading fluency measurements to monitor student learning, the outcomes were not an accurate description of reading deficits for both English language learners and non-English language learners.

Based on my review of current research, little qualitative research has been conducted on how public school teachers in Grades 1-3 provide instruction in Tier 2 reading interventions to improve learning for students at-risk for academic failure in reading (Bean & Lillenstein, 2012; Huberman, Navo, & Parrish, 2012; Kerins, Trotter, & Schoenbrodt, 2010). I addressed this research gap by exploring how teachers used assessments and instruction in Tier 2 interventions for students in Grades 1-3 who were identified at-risk in reading, particularly in relation to the diagnostic assessments teachers used to determine intervention placement, the scaffolding process they used to provide instruction, and the means by which they monitored student progress.

Purpose of the Study

The purpose of this study was to explore how teachers in Grades 1-3 used assessments and instruction in Tier 2 interventions for students identified at-risk in reading. To accomplish that purpose, I described the types of diagnostic assessments these teachers used to determine student placement and to inform their instruction in Tier 2 reading interventions. In addition, I described the scaffolding process that these teachers used to provide instruction for students in Tier 2 reading interventions and how they monitored student progress in Tier 2 reading interventions.

Research Questions

I sought to answer one central and four related research questions based on my conceptual framework and the literature review for this study. The central research question was, How do teachers use assessments and instruction in Tier 2 interventions for students in Grades 1-3 who are identified as at-risk for failure in reading? Related research questions were

1. How do teachers use diagnostic assessments to determine student placement in Tier 2 reading interventions?
2. How do teachers use diagnostic assessments to inform their instruction in Tier 2 reading interventions?
3. How do teachers use the scaffolding process to provide instruction for students in Tier 2 reading interventions?
4. How do teachers monitor student progress in Tier 2 reading interventions?

Conceptual Framework

The conceptual framework for this study was based on Vygotsky's (1929) cultural-historical theory of psychological development, particularly in relation to cognitive development and the zone of proximal development. Vygotsky maintained that cognitive development includes (a) the processes of mastering the external means of cultural development and thinking in relation to language, writing, counting, and drawing and (b) the processes of higher mental functions, which include the concepts of logical memory, categorical perception, voluntary attention, and conceptual thinking. In terms of designing instruction to develop these higher mental functions, Vygotsky discussed the importance of teaching writing, the pivotal role of subject-matter concepts, and the role of the teacher. Vygotsky's learning theory suggests that cognitive growth takes place at the student's zone of proximal development. For this study, the zone of proximal development was defined as the space between what students can accomplish without assistant and what they can accomplish with an individual who functions at a higher cognitive level (Vygotsky, 1934/2002). Tier 2 interventions in reading were defined as intense instruction directed at students' individual learning needs.

Nature of the Study

For this qualitative research study, I used a single case study design. Yin (2014) defined case study design as an investigation of "a contemporary phenomenon (the "case") in its real-life world context, especially when the boundaries between the phenomenon and context are no clearly evident" (p. 16). For this single case study, the

boundaries between the phenomenon of Tier 2 interventions and the environment of the regular classroom were often blurred, making it hard to understand the difference between classroom instruction and Tier 2 intervention instruction. Therefore, I viewed case study as an appropriate research design to examine these boundaries. Yin also argued that case study design involves the collection and analysis of data from multiple sources. I selected case study design in order to present a rich picture of the phenomenon of Tier 2 reading interventions by collecting data from multiple sources, including interviews of teachers in Grades 1-3 who provided Tier 2 instruction for students identified at-risk in reading, observations of Tier 2 instruction in reading, and documents related to reading interventions in order to present a rich picture of the phenomenon of Tier 2 reading interventions in the classroom setting.

In relation to the methodology of this study, the case or unit of analysis for this study was defined as Tier 2 intervention instruction in Grades 1, 2, and 3 at a specific public elementary school located in a western state. I collected data from multiple sources, including (a) interviews with teachers in Grades 1, 2, and 3 who were responsible for providing Tier 2 reading interventions, (b) observations of Tier 2 reading interventions in Grade 1, 2, and 3 classrooms, and (c) documents related to RTI implementation in these grade levels at the research site. Participants were purposefully selected from one elementary school in a public school district in a western state. Participants included one teacher from Grade 1, one teacher from Grade 2, and one teacher from Grade 3 for a total of three participants who provided Tier 2 reading

interventions for students at-risk in reading. These participants could be classroom teachers, reading specialists, Title I teachers, or special education teachers. For the interviews, I designed the interview guide based on Merriam's (2009) guidelines for conducting effective interviews for qualitative research. I also designed the observation data collection form that I used to conduct observations of Tier 2 reading interventions, based on Merriam's criteria for conducting observations for qualitative research, which I adapted for this study. Data analysis was conducted at two levels. At the first level, I analyzed data by coding and categorizing the interview and observation data. I used a content analysis to examine the documents, which involved describing the purpose, content, and use of the documents. At the second level, I examined data across all sources to determine emerging themes and discrepant data, which were the basis for the key findings. I analyzed and interpreted these key findings in relation to the central and related research questions.

Definitions

Basic reading skills: The five basic reading skills that students need to master in order to be considered proficient readers, which include phonemic awareness, phonics, reading fluency, reading comprehension, and vocabulary (National Reading Panel, 2000).

Curriculum-based measurements: Any set of measurement activities that uses "direct observation and recording of a student's performance in the local curriculum as a basis for gathering information to make instructional decisions" (Deno, 1987, p. 41).

Diagnostic assessments: Used to evaluate individual student abilities in order to identify strengths and deficits of a specific academic domain (Mellard, McKnight, & Woods, 2009).

Early intervention in reading: Explicit, systematic small-group instruction that emphasizes phonological awareness, repeated passage reading, systemic phonics, guided sentence writing, vocabulary, and comprehension (Reynolds, Wheldall, & Madelaine, 2011).

Formative assessments: Any set of measurements used "to monitor student learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning" (Eberly Center, 2010).

Higher mental functions: Vygotsky defined these functions as logical memory, categorical perception, voluntary attention, and conceptual thinking, which are considered critical to advancing students' cognitive levels (1934).

Phonics: A form of instruction that cultivates the understanding and use of the alphabet, which emphasizes the predictable relationship between phonemes (the sounds in spoken language) and graphemes (the letters that represent those sounds in written language) and shows how this information can be used to read or decode words (National Center for Learning Disabilities, 2015).

Phonological awareness: A reading skill that involves a range of understandings related to the sounds of words and word parts, including identifying and manipulating

larger parts of spoken language such as words, syllables, and onset and rime (National Center for Learning Disabilities, 2015).

Progress monitoring: A process that involves assessing students' academic performance, quantifying student rates of improvement or responsiveness to instruction, and evaluating the effectiveness of instruction (National Center for Learning Disabilities, 2015).

Reading comprehension: Reading skills that involve understanding and interpreting information within the text (National Center for Learning Disabilities, 2015).

Reading fluency: Reading skills that involve the ability to read text aloud with accuracy, appropriate rate, and good expression (National Center for Learning Disabilities, 2015).

RTI model: An instructional intervention model that is a multi-tiered approach to the early identification and instructional support of students with learning needs and that was mandated by the Individuals with Disabilities Education Improvement Act (IDEA) in 2004 and the Every Student Succeeds Act (ESSA) in 2016 (National Center for Learning Disabilities, 2015).

Scaffolding: A supportive instructional structure that teachers use to provide the appropriate mechanisms for a student to complete a task that is beyond their unassisted abilities (Clark & Graves, 2005).

Scaffolding process: Scaffolding is a process that includes contingency, fading, and transfer of responsibility. Contingency is the tailored, adjusted, and differentiated

responses or support that a teacher gives to a student during instruction. Fading is the gradual withdrawal of the scaffolding or contingency support. Transfer of responsibility is the completion of the fading stage, when students can independently process the task (van de Pol, J., Volman, M., & Beishuizen, J., 2010).

Summative assessments: Any set of measurements that "evaluate student learning at the end of an instructional unit by comparing it against some standard or benchmark" (Eberly Center, 2010).

Tier 1 interventions: All students receive high-quality, research-based instruction in the general education classroom, and teachers differentiate instruction, providing instruction designed to meet the specific needs of students in the class (National Center for Learning Disabilities, 2015).

Tier 2 interventions: Students receive increasingly intensive systematic instruction matched to their needs, which is based on levels of performance and rates of progress. Intensity varies across group size, frequency and duration of the intervention, and level of training of the professionals providing intervention instruction. These services and interventions are provided in small group settings in the general education classroom. Tier 2 interventions are designed to meet the learning needs of individual students (National Center for Learning Disabilities, 2015).

Tier 3 interventions: Students receive individualized, intensive interventions that target the students' skill deficits. Students who do not achieve the desired level of progress in response to these targeted interventions are referred to an educational

specialist for a comprehensive evaluation and considered for eligibility for special education services under the Individuals with Disabilities Education Improvement Act of 2004 (IDEA, 2004).

Vocabulary: A skill that refers to the words a reader knows. Listening vocabulary refers to the words students know when hearing them in oral speech. Speaking vocabulary refers to the words students use when they speak. Reading vocabulary refers to the words students know when seeing them in print. Writing vocabulary refers to the words students use in writing (National Center for Learning Disabilities, 2015).

Zone of proximal development: The space between what students can accomplish without assistant and what they can accomplish with an individual who functions at a higher cognitive level (Vygotsky, 1934).

Assumptions

This study was based on several assumptions. The first assumption was that participants would respond openly and honestly to all of the interview questions. This assumption was important because participant responses are considered valid data in qualitative research, and therefore, their responses impacted the trustworthiness of this qualitative study. The second assumption was that the documents I collected about the RTI model from this public school district were accurate. This assumption was important because I used these documents to support the interview and observation data, which improved the trustworthiness of this study. The third assumption was that participants had some understanding of the RTI model and how to use assessments and instruction for

Tier 2 interventions. This assumption was important because the findings of this study depended on that understanding.

Scope and Delimitations

The scope and delimitations narrowed the focus of this study. The scope was defined as the boundaries of this case study. The boundaries for this study were Tier 2 interventions in reading for students at-risk in reading in Grades 1-3. This study was further narrowed by the participants, the location, the time frame, and the resources. The participants included three teachers from one public elementary school who provided Tier 2 instruction for students in Grades 1, 2, and 3 who were identified at-risk in reading. In terms of location, this study was conducted at one public elementary school in an urban public school district located in the western region of the United States. This study was further narrowed by the time frame, which was the 2015-16 school year. I was also a single researcher with limited time and limited financial resources.

Limitations

The research design of a study often determines the limitations of a study. One limitation of this single case study was that I was the only person responsible for the collection, analysis, and interpretation of all data. Therefore, the possibility of researcher bias existed. To address this bias, I used specific strategies that Merriam (2009) recommended to improve the trustworthiness of qualitative research. For example, Merriam suggested using the strategy of reflexivity to address potential bias in qualitative research, and I used that strategy by maintaining a researcher's journal in which I

reflected on my assumptions and biases about how teachers should implement effective reading interventions for students in the primary grades. I provide a more detailed description in Chapter 3 of how I used other strategies to improve the trustworthiness of this study.

A second limitation of this study was related to data collection. Because I was a single researcher with limited time and resources, I interviewed each participant only once, and I conducted only one observation of an instructional lesson for each teacher whom I interviewed. Therefore, the richness of the findings from these data sources might be limited. To partially address this limitation, I collected data from other sources such as written documents about the RTI model at this school, including reading standards for students in Grades 1-3, progress monitoring guidelines for Tier 1 and 2 reading interventions, and state and district grade level group assessment results in reading.

A third limitation was that this study included only one case, which limits the transferability of the findings. Yin (2014) noted that literal replication is possible with only one case if that case is unique or compelling, and theoretical replication is possible only when at least four to six cases have similar findings. I planned to address this limitation by presenting two cases, but I was unable to obtain signed consent forms from participants at the second site.

Significance

This research study will make an original contribution to research on RTI implementation in public school settings because little is known about how teachers provide reading instruction in Tier 2 interventions for students in Grades 1-3 who are identified as at-risk in reading, particularly in relation to the classroom assessment data that they use to determine the instruction students should receive, the scaffolding process that they use to provide this intervention instruction, and how they monitor student progress. This study will also support professional practice in reading instruction because educators can use the findings of this research study to develop a deeper understanding of the types of professional development they need to improve teaching and learning in relation to Tier 2 reading interventions. In addition, this study will contribute to positive social change because it will advance knowledge about how to improve intervention instruction for students at-risk in reading, which will create a more literate society.

Summary

This chapter was an introduction to this study. In this chapter, I included background information relative to prior research that has been conducted on RTI and reading intervention practices. This chapter included a problem statement that summarizes current research gaps in relation to Tier 2 reading interventions. The purpose of the study was to explore how teachers in Grades 1, 2, and 3 used assessments and instruction in Tier 2 interventions for students identified at-risk in reading. The research

questions for this study were based on the purpose of the study, the conceptual framework, and the literature review. The conceptual framework was based on Vygotsky's research about the zone of proximal development and the more recent concept of scaffolding. The research design for this study was a single case study, and the participants included three teachers in Grades 1-3 who provided Tier 2 instruction for students at-risk in reading at one public elementary school for a total of three participants. Data were collected from multiple sources, including observations, interviews, and documents related to the RTI model implemented at each elementary school. Data analysis included coding and category construction for each data source and examining data across all sources for emerging themes and discrepant data, which formed the key findings for this study. In addition, this chapter included a discussion of the assumptions and limitation of this study as well as the significance.

Chapter 2 is a review of the research literature, including a description of the literature search strategy that I used to conduct this review and an in-depth description of the conceptual framework for this research study that was based on Vygotsky's (1931) cultural-historical theory of psychological development in relation to the zone of proximal development and the more recent concept of scaffolding. The literature review includes a review of current research related to placement, instruction, and progress monitoring for Tier 2 interventions, and the conclusion includes a discussion of major themes and gaps found in the review.

Chapter 2: Literature Review

The problem I sought to address in this study was a lack of research on how elementary school teachers in the United States use diagnostic assessments, instructional strategies, and progress monitoring in Tier 2 interventions to improve skills for students identified as at-risk in reading. Tier 2 interventions are particularly critical to the success of students at-risk in reading. In addition, effective Tier 2 interventions may prevent unnecessary placement of students in special education services.

Several studies were conducted concerning effective diagnostic assessments that teachers have used as part of the universal screening process and for Tier 2 placement (see Black et al., 2011; Compton et al., 2010; Crepeau-Hobson & Bianco, 2011; Gersten et al., 2009; Gilbert, Compton, Fuchs, D., & Fuchs, L. S., 2012; Goetze & Burkett, 2010; Kashima, Schleich, & Spradlin, 2009; Kilgus, Methe, Maggin, & Tomasula, 2014; Lam & McMaster, 2014; Meisinger, Bloom, & Hynd, 2010; National Joint Committee on Learning Disability (NJCLD), 2011; Park & Lombardino, 2013; Shepherd & Salembier, 2011; Snowling, Duff, Petrou, Schiffeldrin, & Bailey, 2011; Wolff, 2014). Prior research was also conducted on effective instructional practices that teachers use in Tier 2 interventions (Kilgus, Methe, Maggin, & Tomasula, 2014; Merino & Beckman, 2010; Oslund et al., 2012; Reschly, Busch, Betts, Deno, & Long, 2009). In addition, research was conducted on progress monitoring related to Tier 2 interventions (Chambers et al., 2011; Denton et al., 2011; Flint, 2010; Fuchs, D., Fuchs, L. S., & Vaughn, 2014; Slavin, Lake, Davis, & Madden, 2011).

However, based on my review of the literature, few researchers have explored how teachers in the early elementary grades use assessments and the scaffolding process for Tier 2 reading instruction. Therefore, the purpose of this study was to explore how teachers in Grades 1-3 use assessments and instruction in Tier 2 interventions for students at-risk in reading.

In this chapter, I describe the literature search strategies that I used to review relevant research on my topic and the conceptual framework that supported this study. I also analyze research related to the placement of students in Tier 2 interventions, including how teachers use diagnostic assessments and progress monitoring in Tier 1 interventions to determine student placement in Tier 2 interventions. In addition, I analyze research related to the types of curricular materials and instructional strategies that teachers use in Tier 2 interventions. I also analyze research studies related to progress monitoring in the RTI model. I conclude this chapter with a discussion of the major themes and gaps found in the research literature.

Literature Search Strategy

For this literature search, I used multiple databases to locate peer-reviewed research articles published from 2009-2014. I accessed the following databases from the Walden University Library: Academic Search Complete, Science Direct, Education Search Complete, ERIC, and ProQuest Dissertation & Theses Global. I also searched Google Scholar, the National Institute of Child Health and Human Development, the International Literacy Association, and the International Dyslexia Association. The key

words used in the data search were *assessing reading and literacy deficits, curriculum-based measurements, diagnostic assessments, dyslexia interventions, instructional strategies, intensity of instruction, interventions and literacy deficits, interventions and reading deficits, progress monitoring, reading assessments, reading interventions, reading intervention programs, scaffolding instruction, struggling readers, RTI, RTI and assessments, RTI and curriculum, RTI and instruction, RTI and reading deficits, RTI and struggling readers, Tier 2 reading assessments, Tier 2 reading interventions, Tier 2 reading instruction, Tier 2 reading programs,* and *universal screening.*

I also conducted follow-up searches to verify and expand on information found in selected journal articles. Full implementation of the RTI model is still fairly recent in the United States (Fuchs, D., Fuchs, L. S., & Stecker, 2010), which made finding current research studies a challenge. Some of the research studies that I found do not focus on Tier 2 placement or instruction, but instead focus on how educators identify and address the learning needs of students who are unable to maintain grade-level academic achievement in reading (Gersten et al., 2009; Gilbert, Compton, Fuchs, D., & Fuchs, L., 2012; Kashima, Schleich, & Spradlin, 2009; Lam & McMaster, 2014; NJCLD, 2011; Snowling et al., 2011). Another major challenge was finding definitions of the RTI model and its components, because general education and special education educators often differ in their ideas about the nature and purpose of RTI.

Conceptual Framework

The conceptual framework for this study was based on Vygotsky's (1929) cultural-historical theory of psychological development, particularly in relation to cognitive development and the zone of proximal development. Vygotsky maintained that cognitive development includes (a) the processes of mastering the external means of cultural development and thinking in relation to language, writing, counting, and drawing and (b) the processes of higher mental functions, which include logical memory, categorical perception, voluntary attention, and conceptual thinking. In terms of designing instruction to develop these higher mental functions, Vygotsky particularly emphasized the importance of the role of the teacher.

In examining the role of the teacher, Vygotsky (1935/2011) discussed the meaning of collaboration, the importance of the ideal form, and the role of the zone of proximal development. Concerning the meaning of collaboration, Vygotsky emphasized that a teacher and student need to work together in order to solve a learning problem. Vygotsky also believed that for learning to occur in the classroom, teachers need to constantly model and explain tasks and to ask students for explanations of tasks, because these responses help students develop the ability to ask questions and explain concepts. Students with advanced cognitive abilities can take on the role of the teacher in assessing their peer's emerging cognitive functions through collaborative work with their peers (Flint, 2010; Vygotsky, 1935/2011).

In relation to the ideal form, Vygotsky (1934/2002) argued that students' cognitive growth will be limited without the modeling of higher mental functions. These functions include logical categorical perception, voluntary attention, and conceptual thinking. Teachers model the ideal form of action(s), which is mirrored by the student in order to complete instructional tasks or set goals. Teacher modeling of the ideal form often changes to match the current maturation level of students (Vygotsky, 1934/2002).

Teacher modeling of the ideal form is also important in relation to the zone of proximal development, which Vygotsky (1935/2011) defined as "the distance between the level of actual development, determined with the help of independently solved tasks, and the level of possible development, defined with the help of tasks solved by the child under the guidance of adults or in cooperation with the more intelligent peers" (p. 204). Vygotsky stated that a critical component of the zone of proximal development is students' persistent imitation of the ideal form, which helps them develop higher mental functions, including logical memory, categorical perception, voluntary attention, and conceptual thinking. Vygotsky (1934/2002) also stated that "the only good kind of instruction is that which marches ahead of development and leads it; it must be aimed not so much at the ripe as at the ripening function" (p. 189). Thus, Vygotsky meant that instruction, in the form of teacher modeling, should take place just beyond the tasks that a student can accomplish.

Vygotsky's (1934/2002) zone of proximal development is a concept particularly important to intervention instruction because it is the point at which instruction will be

most effective for the individual student. A student will also be able to grasp new skills at the zone of proximal development. In earlier research, Wood, Bruner, and Ross (1976) contended that teachers should control task elements that are beyond the student's capability by scaffolding instruction, which they defined as "controlling those elements of the task that are initially beyond the learner's capacity, thus permitting him to concentrate upon and complete only those elements that are within his range of competence" (p. 90). Scaffolding allows students to concentrate on the task elements that they can complete. However, Vygotsky also proposed a role for scaffolding in the assessment of a student's capabilities. Vygotsky believed that each student has a unique learning level that is based on past interactions of adults, peers, culture, and natural environment and biological factors. Vygotsky believed that interaction between the student and the teacher must involve a process of removing the scaffolds in order to allow the student to complete the assessed skill using his or her own abilities (as cited in Gredler, 2009).

Current research supports the concept of scaffolding for both instruction and assessment. In a micro-analysis of teacher-student interactions in relation to scaffolding learning, van de Pol and Elbers (2013) found that student learning increased when teachers scaffold the lesson. Van de Pol, Volman, and Beishuizen (2010) defined scaffolding as contingent, fading over time, and aimed at transferring responsibility to the student. Van de Pol and Elbers developed the contingent shift principle, which has two rules: (a) to increase control when students fail and (b) to decrease control when students

succeed. In a related study, Spörer, Brunstein, and Kieschke (2009) examined the effects of strategy instruction and reciprocal teaching on reading comprehension skills of students in Grades 3-6 and found that students who practiced teacher modeled strategies during interventions improved their abilities to summarize, question, and predict written text. In a third study, Van de Pol, Volman, and Beishuizen (2010) reviewed a decade of research about scaffolding in teacher-student interactions and found that the key components of the scaffolding process include contingency, fading, and transfer of responsibility. Van de Pol et al. (2010) defined contingency as the responsiveness, which is tailored, adjusted, and differentiated, that a teacher gives to a student during instruction. They defined fading as "gradual withdrawal of the scaffolding" (Van de Pol, Volman, & Beishuizen, 2010, p. 275). Transfer of responsibility, according to Van de Pol et al. is the completion of the fading stage, when students can independently process the task (p. 275). Van de Pol et al. (2010) concluded that more research needs to be conducted about how to define the process of scaffolding and the effectiveness of specific scaffolding strategies that teachers use to improve learning. These studies are important because findings indicate that teachers who use specific scaffolding strategies during instruction improve student learning. More research, however, needs to be conducted to develop a universal definition of scaffolding and the components that comprise an effective scaffolding process.

Vygotsky's (1934/2002) research is relevant to this study because teachers need to provide the appropriate level of instruction during an intervention in order to ensure

students' development of higher mental functions. Vygotsky's cognitive learning theory suggests that cognitive growth takes place at the student's zone of proximal development. For this study, Tier 2 interventions in reading were defined as intense instruction directed at students' individual learning needs, and Vygotsky's zone of proximal development was defined as guidance for teachers in scaffolding assessments and instruction that helps students improve their cognitive growth.

Literature Review

The literature review includes three majors sections related to Tier 2 instruction in the RTI model. The first section includes an analysis of research related to the diagnostic assessments teachers use to effectively screen and place students in Tier 2 instruction. The second section includes an analysis of research related to Tier 2 instructional interventions, particularly concerning the specific curricular materials and instructional strategies that teachers use to scaffold instruction and improve reading achievement. The third section includes an analysis of research related to how teachers monitor student progress during reading interventions.

Placement of Students in Tier 2 Reading Interventions

Placement of students in Tier 2 reading intervention begins with Tier 1 intervention instruction. According to the IDEA (2004) federal mandate, teachers are required to collect student performance data in Tier 1 for evaluation of student achievement and placement of students demonstrating need in different tiers of the RTI model. IDEA legislation also encourages state and local education agencies to verify if

students can respond to research-based interventions as part of the evaluation process for identifying their specific learning disabilities (NJCLD, 2011). IDEA legislation also allows public school educators to choose the types of curriculum, instructional strategies, and assessments to use in the RTI model to better meet the learning needs of identified students (Fuchs, D., Fuchs, L. S., & Stecker, 2010).

Current research also suggests the placement of students in Tier 2 interventions is part of a larger process. In an investigation of early screening for students at risk for reading disabilities, Gilbert, Compton, Fuchs, D., and Fuchs L. S. (2012) presented a four-step screening process that teachers should use to accurately identify students who may be at-risk for reading disabilities. Step 1 involves universal screening that is conducted with all students as a part of Tier 1 instruction to verify that students are proficient in reading at their grade level. Students who demonstrate reading deficits receive Tier 1 or Tier 2 interventions, depending on the results of follow-up assessments. Step 2 involves monitoring student progress in Tiers 1, 2, and 3. Step 3 involves confirming Step 1 and Step 2 by using follow-up assessments to alleviate false positives and to provide information for further intervention instruction. Step 4 involves evaluating student progress and making adjustments to current instruction. The following sections include an analysis of the research literature related to (a) universal screening, (b) diagnostic assessments used for Tier 2 placement and instruction, and (c) other factors that help teachers make effective placement decisions using the RTI model of systematic intervention.

Universal screening. The purpose of universal screening is to identify students who may be at-risk for grade level reading acquisition and who may require intervention instruction (Fletcher & Vaughn, 2009; Kashima, Schleich, & Spradlin, 2009; Kilgus, Methe, Maggin, & Tomasula, 2014). Universal screenings are usually given to all students three times a year to determine students at-risk for failure in reading or to determine those students who are functioning at grade level (Goetze & Burkett, 2010; Kilgus et al., 2014; Shepherd & Salembier, 2011). If implemented appropriately, universal screening should identify 90% of students who are at-risk for reading acquisition (Kashima et al., 2009). Universal screenings are usually comprised of short, easy-to-administer probes of 1-3 minutes (Gilbert, Compton, Fuchs, D., & Fuchs, L. S., 2012). An example of this type of probe is oral reading fluency. Universal screening is often used to monitor student progress and as a diagnostic assessment to determine students' individual learning needs (Fletcher & Vaughn, 2009).

Several researchers have examined the specific reading skills that teachers need to assess during a universal screening in relation to RTI placement and instruction for students in the early elementary grades. Gersten et al. (2009) developed a guide titled *Assisting Students Struggling with Reading: Response to Intervention (RTI) and Multi-Tier Intervention in the Primary Grades*, which is based on the most current research regarding intervention instruction. Gersten et al. recommended that teachers assess the reading skills of Grade 1 students in relation to the following concepts and skills: (a) letter naming and fluency, (b) phoneme segmentation, (c) nonsense word fluency, (d)

word identification, and (e) oral or passage reading fluency. In this guide, Gersten et al. recommended that Grade 2 students be assessed for word identification skills and oral reading or passage fluency skills. In related research, Kashima, Schleich, and Spradlin (2009) examined the core components of RTI in relation to curriculum, assessment and progress monitoring, and data-based decision making and found that the universal screens used in universal screening should be accurate and efficient for identifying at-risk students. Kashima et al. recommended that other grade-level skills should be assessed during universal screenings to better determine those students at-risk for reading acquisition. They also recommended that Grade 1 students should be assessed for sound repetition and vocabulary skills, Grades 2 students should be assessed for comprehension skills, and Grade 3 students should be assessed for comprehension and oral reading fluency skills. This research is significant because teachers need to know the appropriate grade level skills to effectively identity students who need Tier 2 intervention placement.

In relation to universal screening, different types of assessments should also be used at different grade levels to determine grade-level achievement and specific learning deficits for individual students. Lam and McMaster (2014) analyzed 14 research studies for predictors of responsiveness to early literacy intervention and found that word identification, alphabetic principle, fluency, and phonemic awareness are predicators of RTI intervention and that IQ and memory are inconsistent predicators of RTI intervention. Lam and McMaster recommended that students in Grades K-3 should be

universally screened for word identification, alphabetic principle, reading fluency, and phonemic awareness as predictors of reading deficits.

Table 1 includes a grade level timeline for universal screening, based on a summary of research studies related to this topic. Columns A, B, and C include recommendations about when specific reading skills should be assessed in Grades K-3 in order to identify students at-risk for reading deficits. Column D includes recommendations about when specific learning disabilities should be assessed in Grades K-3.

Table 1

Universal Screening Grade Level Timeline

Reading Skill	Column A Gersten et al., 2009	Column B Kashima et al., 2009	Column C Lam & McMaster, 2014	Column D NJCLD, 2011
Letter naming & fluency	Grade K-1	Grade K-1	Grade K-1	
Phoneme segmentation	Grade K-1	Grade K-1		
Phonemic awareness			Grade K-3	
Nonsense fluency	Grade 1			
Word identification	Grade 1-2		Grade K-3	
Oral reading fluency	Grade 1-2	Grade 1	Grade K-3	Grade K-3
Sound repetition		Grade K-1		
Vocabulary		Grade 1		
Reading comprehension		Grade 2-3		Grade K-3
Listening comprehension		Grade 2-3		Grade K-3
Written expression				Grade K-3
Basic reading skills				Grade K-3
Oral expression				Grade K-3

Note: Column A was adapted from "Assisting Students Struggling with Reading: Response to Intervention (RTI) and Multi-Tier Intervention in the Primary Grades" by R. Gersten et al., 2008, National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education, 2009-4045, p. 13. Column B was adapted from "The Core Components of RTI: A Closer Look at Evidence-Based Core Curriculum, Assessment and Progress Monitoring, and Data-Based Decision Making by Y. Kashima, B. Schleich, and T. Spradlin, 2009, Center for Evaluation & Education Policy, p. 6. Column C was adapted from "A 10-Year Update of Predictors of Responsiveness to Early Literacy Intervention" by E. A. Lam and K. L. McMaster, 2014, *Learning Disabilities Quarterly*, 37(3), p. 143. Column D was adapted from "Comprehensive Assessment and Evaluation of Students with Learning Disabilities" by The National Joint Committee on Learning Disabilities, 2011, *Learning Disability Quarterly, 34*(1), 3-16.

Table 1 indicates that universal screening should match grade-level standards for literacy. In Table 1, I also included a description of the specific reading skills that students should master at each grade level, which is also information that teachers should know when conducting universal screenings.

In other research related to universal screening, Partanen and Siegel (2014) examined long-term outcomes for the early identification and intervention of reading disabilities. They included subsets of the *Phonological Abilities Test* (PAT) to develop an initial base-battery or universal screening of student reading abilities in kindergarten that could predict future reading deficits. The development of an effective base-battery gives educators a tool to identify students that need early intervention. These subsets included rhyme detection, a phoneme deletion task, syllable identification, and phoneme identification. Partanen and Siegel found that "word and letter recognition, phonological processing, rapid naming, working memory and language tasks differentiated the at-risk and not-at-risk groups" (p. 680) and that most students who received early intervention during kindergarten tended to score in the average range for reading achievement in Grades 1-7. This research is particularly relevant because the earlier at-risk students are identified, the earlier they can receive intervention instruction, which can reduce their need for intervention instruction in later school years.

In another study related to universal screening, Clemens, Shapiro, and Thoemmes (2011) investigated how to improve universal screening for Grade 1 students. They used the *Test of Word Reading Efficiency* (TOWRE) to investigate the accuracy of reading

measures used to predict reading deficits for first grade students. Clemens et al. found that word identification fluency is a significant predicator of reading deficits for Grade 1 students, and they recommended that it should be used as a first screening measure. Clemens et al. also concluded that when one or two measures are added to the word identification fluency measure, the numbers of false positives are reduced. This research is significant because accurate diagnostic assessment informs more effective instruction and progress monitoring.

Diagnostic assessments. Researchers have also explored how educators use a variety of diagnostic assessments to determine the status of an individual student's literacy skills, to reduce false positives of reading deficits, and to develop effective Tier 2 instruction. The National Joint Committee on Learning Disabilities (NJCLD) (2011) identified the following six categories of literacy skills based on the IDEA (2004) legislation that educators should use to determine specific learning disabilities for students: (a) oral expression, (b) listening comprehension, (c) written expression, (d) basic reading skills, (e) reading fluency skills, and (f) reading comprehension. The assessment of these literacy skills usually begins in Tier 1 with universal screening and is followed-up in Tier 2 to determine how to meet individual student needs (IDEA, 2004).

In a significant study about diagnostic assessments, Crepeau-Hobson and Bianco (2011) explored how to better identify gifted students with learning disabilities in relation to RTI. Crepeau-Hobson and Bianco found that four assessments can be used to identify these students. The first assessment is the *Behavior Ratings Inventory of Executive*

Function (BRIEF), which is a survey that parents complete about their child's behavior. The second assessment is the *Das-Naglieri Cognitive Assessment System* (DN: CAS), which is a standardized assessment designed for children ages 5-17 to measure four basic psychological processes, including planning, attention, simultaneous, and successive. The third assessment is the *Woodcock-Johnson III Test of Cognitive Abilities* (WJ III COG), which determines comprehension-knowledge, long-term retrieval, visual-spatial thinking, auditory processing, fluid reasoning, processing speed, and short-term memory. The fourth assessment is the *Test of Written Language* (TOWL-4), which is a norm-referenced instrument used to assess vocabulary, spelling, punctuation, logical sentences, sentence combining, contextual conventions, and story composition. Crepeau-Hobson and Bianco concluded that including the DN: CAS and TOWL-4 in a Tier 2 assessment battery increases the accuracy of identifying reading deficits for gifted students. This research is significant because gifted students often mask their reading deficits, and therefore, they are not identified for reading support.

In other research, Park and Lombardino (2013) examined the relationship between cognitive deficits and reading skills of younger and older students with developmental dyslexia. They used specific subsets of the *Comprehensive Test of Phonological Processes* (CTOPP) to predict those students with developmental dyslexia who need Tier 2 instruction. Park and Lombardino found that a nonlinguistic simple serial processing speed measure was more predictive of dyslexia students at ages 6-8 than a phonological awareness measure. Park and Lombardino also found that dyslexic

students often have literacy deficits that are overlooked until they need to analyze and use written words for meaning, which includes about 10-15% of students. Park and Lombardino recommended that educators should use a nonlinguistic simple serial processing speed measure to predict those students who are dyslexic, so that they could receive intervention instruction earlier to assist them in maintaining grade level achievement.

Three other researchers drew similar conclusions regarding the predictive strength of the *Comprehension Test of Phonological Processes* (CTOPP), particularly in relation to phonological awareness and rapid automatized naming (RAN) skills, which can be used to predict those students who have reading deficits and may need Tier 2 interventions. In the first study, Fumes and Samuelsson (2011) examined how to predict spelling and reading problems in Scandinavian and Australian students. They used the phonological and rapid naming subsets of the CTOPP to explore the predicative strength of phonological awareness and rapid automatized skills for students in Grades 1 and 2. Fumes and Samuelsson found that (a) phonological awareness was a strong predicator of reading deficits for Grade 1 students, (b) phonological awareness skills diminish in predictive strength for Grade 2 students, and (c) rapid automatized skills are a better long-term predictor of reading deficits. In the second study, Taub and Szente (2012) examined the relationship between rapid automatized skills and phonological awareness skills in homogenous minority populations in Grades Pre-K-3 and found that rapid automatized naming skills have a strong relationship to phonological awareness skills for

students in these grades. Taub and Szente concluded that rapid automatized naming skills are a better predicator of reading deficits for minority students than phonological awareness. Taub and Szente also concluded that phonological awareness skills directly affect student reading fluency and that intervention should focus on phonological skills not reading fluency. In the third study, Wolff (2014) explored rapid automatized naming skills as an independent predictor of skills related to reading speed, reading comprehension, and spelling. Wolff found that rapid automatized naming skills and phonemic awareness skills independently "predict different aspects of reading" during the early phases of reading acquisition (p. 163). Thus, all of these researchers recommended that educators use the phonological awareness and rapid automatized naming skills subsets of the CTOPP as diagnostic assessments to identify at-risk students who may need Tier 2 interventions.

In another study about diagnostic assessments, Meisinger, Bloom, and Hynd (2013) explored reading fluency in relation to implications for the assessment of students identified with reading disabilities. Meisinger et al. found that reading fluency assessments such as the *Gray Oral Reading Test-4* (GORT-4) can be used to identify students with deficits in reading fluency skills. Meisinger et al. also found that students with deficits in reading fluency usually have deficits in reading comprehension. This research is significant because not all students who have deficits in reading fluency have deficits in reading comprehension, and therefore, teachers may need to administer follow-

up assessments to students with reading fluency deficits to determine their proficiency in reading comprehension.

In other research, Compton et al. (2010) examined the selection of Grade 1 students for early intervention in reading. They examined results on the untimed decoding skill subtest, the untimed word identification skill subtest, and the reading comprehension subtest of the *Woodcock Johnson Reading Mastery Tests-Revised* (WRMT-R/NU) to determine specific diagnostic assessments that should be added to a Grade 1 screening battery to eliminate false positives for reading deficits. Compton et al. found that phonemic decoding efficiency assessments reduce the greatest number of true negatives from screening and could be used as a second screen or diagnostic tool to identify at-risk students who need Tier 2 intervention instruction.

In another study, Partanen and Siegel (2014) explored long-term outcomes related to the early identification and intervention of reading disabilities. Partanen and Siegel found that early identification and intervention decreases the number of students with reading deficits in middle school. Partanen and Siegel also recommended that teachers use specific diagnostic assessments such as letter naming, rhyming, and rapid picture naming in kindergarten to assess students' reading abilities, instead of using phonological segmentation measurements that may be too difficult for that age group.

Other Factors. Teacher judgment is one factor that impacts effective placement of students in reading interventions. Wanzek, Roberts, and Otaiba (2013) explored academic responding during instruction and reading outcomes for kindergarten students

at-risk for reading difficulties. Wanzek et al. found that teacher perceptions of student academic competence predict student achievement. In another study about teacher judgments, Speece et al. (2011) explored identification of reading problems for Grade 1 students within a RTI framework. Speece et al. found that teacher perceptions of student reading abilities increase the validity of a first-grade reading battery to identify at-risk students. In related research, Snowling, Duff, Petrou, Schiffeldrin, and Bailey (2011) examined the identification of children at-risk for dyslexia in relation to the validity of teacher judgments. Dyslexia is a "specific learning disability that has neurobiological basis and is characterized by difficulties with accurate and/or fluent word recognition, word and non-word decoding and spelling" (Park & Lombardino, 2013, p. 2947) "despite average or above average intelligence and adequate educational exposure" (Chia & Houghton, 2011, p. 143) that affects approximately 10% of students (Black et al., 2011). Snowling et al. found that teacher judgments have an accuracy rate of only 50% in predicting students' reading deficits, and they concluded that educators should use caution when relying only on teacher judgments to predict students' reading deficits. However, the majority of the research found in this review suggests that when teacher evaluations of student reading deficits are combined with other assessments, such as phonological awareness and reading fluency that the validity of the assessment results increase.

Another factor that impacts student placement in reading interventions is a family history of reading difficulties. Several researchers have found that an understanding of

this family history increases the validity of reading outcome predictions. Black et al. (2011) examined the relationship of familial and reading deficits on brain development to developmental dyslexia. Black et al. administered the *Adult Reading History Questionnaire* (ARHQ) to parents of children who participated in the research study to determine their familial history in relation to learning how to reading. They found that "the worse the mother's self-reported past reading difficulties, the lower the child's reading-related cognitive and behavioral scores" (Black et al., 2011, p. 3026). In a related study, Berninger and Richards (2010) examined the inter-relationships among behavioral markers, genes, and the brain to the treatment of individuals with reading deficits. Berninger and Richards found a stronger predictive genetic link to reading deficits during the pre-school grades than during the early elementary grades. They also found that genetic links begin to lose predictive value for reading deficits when the nature of curriculum changes. In another study, Harlaar et al. (2010) examined the prediction validity of individual differences of monozygotic and same-sex dizygotic twin pairs for reading comprehension. They used two subsets of the *Test of Word Reading Efficiency* (TOWRE) that measure the fluency of real and decodable pseudo-words to better understand the genetic and environmental overlap for word decoding, oral language, and reading comprehension skills. Harlaar et al. found genetic similarities for phonological decoding, word recognition, listening comprehension, vocabulary, and reading comprehension. Harlaar et al. concluded that some of the similarity was due to shared environmental influences between twins and that there is "no residual genetic or

environmental influences on reading comprehension" (p. 266). These studies are valuable because they provide an understanding of how a family history of reading difficulties plays a critical role in predicting reading deficits that may need Tier 1 or 2 interventions.

Another factor that impacts student placement in reading interventions is the type of diagnostic assessment that teachers use. Current research suggests that traditional IQ tests are not valid predictors of reading deficits and should not be used for diagnostic purposes. Partanen and Siegel (2014) examined long-term outcomes of early identification and intervention for students with reading disabilities. They used the memory for sentences subtest of the *Stanford-Binet Intelligence Scales* to predict future reading abilities of kindergarten students and to determine how early intervention may affect their growth in reading skills. The memory for sentences subtest requires students to repeat a sentence verbatim that is given by the assessment administrator to determine verbal short-term memory skills. Partanen and Siegel found that this subset does not predict students' reading abilities, and they concluded that yearly screenings are necessary to identify reading deficits beyond the primary years. In a second research study, Cotton and Crewther (2009) examined the relationship between reading achievement and intelligence in primary students. Cotton and Crewther found that the correlation of reading achievement and intelligence changes with age. Cotton and Crewther concluded that age and the intelligence measure used to assess student reading achievement may change the validity of outcome data. In a third research study, Scholin

and Burns (2012) analyzed 18 research studies to understand the relationship between pre-intervention data and post-intervention reading fluency and growth. Scholin and Burns concluded that the relationship between pre-intervention data and post-intervention reading fluency and growth is often not a valid measure of student achievement growth. Scholin and Burns also concluded that measures of cognitive processing should not be used for intervention instruction because the relationship between pre and post intervention data revealed a weak relationship. They recommended that caution be used in comparing the results of pre-intervention and post-intervention data until researchers determine valid pre-intervention measures for identifying students who need the most intense interventions. Thus, this research is important because a better understanding is needed of the types of diagnostic assessments that should be used and avoided in order to place students in the appropriate reading intervention tier to meet their individual learning needs.

Instruction in Tier 2 Reading Interventions

Research indicates that Tier 2 reading interventions significantly impact outcomes for students. In a significant study, Baker, S. Fien, and Baker, D. (2010) investigated conceptual and practical issues in the integration and evaluation of Tier 1 and Tier 2 instructional supports for students in the early grades. They found that Tier 2 interventions should include the following strategies: (a) teacher modeling of new skills and knowledge, (b) many opportunities for students to practice new skills, (c) immediate and systematic feedback from the teacher, and (d) fast-paced lessons to increase student

engagement and the scope of reading skills. Tier 2 instruction should also be based on Tier 1 instruction to ensure positive student outcomes. Therefore, this section includes an analysis of current research about specific instructional strategies and intervention programs that educators have adopted when implementing Tier 2 reading interventions.

Instructional strategies. The types of instructional strategies that teachers use during reading interventions make a difference in achievement outcomes for students. Grouping is one instructional strategy teachers frequently use for Tier 2 reading interventions that positively impacts student reading outcomes (Chambers et al., 2011; Denton et al., 2011; Lin, Chen, Yang, & Lin, 2013; Rojas-Drummond, Mazón, Littleton, & Vélez, 2014; Slavin, Lake, Davis, & Madden, 2011). Chambers et al. (2011) explored small group, computer-assisted tutoring to improve reading skills for students in Grades 1 and 2 and found that this type of small group tutoring was more effective than one-on-one tutoring. In a second study, Slavin, Lake, Davis, and Madden (2011) presented a best-evidence synthesis of research that focused on effective programs for struggling readers and found that (a) one-on-one instruction with a teacher is more effective than with paraprofessionals or volunteers, (b) one-on-one tutoring that extends past Grade 1 can effect reading achievement into the upper elementary grades, (c) small-group instruction can be effective, but "not as effective as one-to-one instruction by teachers or paraprofessionals" when using the same intervention timeframe (p. 22), (d) cooperative learning can significantly affect all learners, and (e) traditional computer-assisted instruction has only a small impact on reading achievement. In a third study Rojas-

Drummond, Mazón, Littleton, and Vélez (2014) examined developing reading comprehension skills through collaborative learning using the educational program *Learning Together*. They found that students who participated in small groups supporting collaborative learning improved their abilities to determine the meaning of the text and to produce integrated and organized summaries. In a fourth study Lin, Chen, Yang, and Lin (2013) explored the effectiveness of *Group Scribble*, which are collaborative reading activities that teachers can use in the primary classroom. *Group Scribble* is computer program that allows students from the same or different locations to interact with other students using "sticky notes" to increase student understanding of classroom assignments. Lin et al. found that students who participated in small groups increased their abilities to reorganize and reconstruct their understandings of topics. In a fifth study, Denton et al. (2011) explored the effectiveness of a supplemental early reading intervention in multiple schools and found that students who either spent 16 or 32 hours in the small group interventions had the same increase of reading skills. This research on grouping is important because RTI legislation requires teachers to provide small group instruction in Tier 2 interventions.

Another instructional strategy that teachers often use in reading interventions is cooperative learning because it often has a positive impact on reading achievement for struggling students (Ahmad, 2010; Flint, 2010; Puzio & Colby, 2013). Ahmad (2010) defined cooperative learning as students working together, helping each other, sharing their ideas, and assisting their group in achieving mastery over the content material.

Ahmad conducted a research study that explored the effect of cooperative learning on student achievement at the elementary school level. Ahmad concluded that cooperative learning was significantly more effective than traditional instruction because students in cooperative learning groups showed higher academic achievement and creative thinking abilities. In addition, the performance gap between low and high performing students was closed in schools where teachers implemented cooperative learning in the classroom. In another study, Flint (2010) explored the cooperative learning strategy of buddy reading in a Grade 1 classroom and found that buddy reading is more effective than independent reading because students scaffold learning, assist in making connections with the text, and increase their motivation to read through social interaction. In a third study, Puzio and Colby (2013) conducted a meta-analysis of cooperative learning and literacy and concluded that cooperative learning has a significant positive effect on student achievement in relation to vocabulary skills, reading comprehension, and general reading ability. These findings are important to Tier 2 reading intervention instruction because the use of cooperative learning has been shown to improve student achievement in reading.

Other researchers have investigated intensity of instruction as an instructional strategy that positively impacts student outcomes in reading (Carson, Gillon, & Boustead, 2013; Fuchs, D., Fuchs, L. S., & Vaughn, 2014; Kupzyk, Daly, Ihlo, & Young, 2012). Fuchs, D., Fuchs, L. S., and Vaughn (2014) defined intensive instruction as the duration and frequency of specified instruction by trained educators. They concluded that

intensive instruction is important because it accelerates student achievement in reading. Fuchs et al. (2014) recommended that the intensity of instruction should be increased by increasing the amount of instructional time per week and the number of instructional weeks. In another related study, Carson, Gillon, & Boustead (2013) examined how short, intensive phonological awareness instruction influences the literacy achievement of kindergarten students with and without spoken language deficits. Carson et al. found that students who received short, intensive phonological awareness instruction significantly outperformed students who received regular classroom instruction. In another important study, Kupzyk, Daly, Ihlo, and Young (2012) explored how to make adjustments to the intensity of instruction within each tier of a multi-tiered intervention model. Kupzyk et al. concluded that teachers should examine (a) "skills targeted for instruction, (g) guided practice, (c) independent practice, (d) implementation fidelity, and (e) the motivating conditions that are present during instruction" before making adjustments to increase the intensity of instruction (p. 219). These studies are important to Tier 2 reading intervention instruction because their findings indicate that the duration and intensity of instruction positively impacts student achievement in reading.

Primary level teachers also need to develop a repertoire of instructional strategies that they can use to help students improve their reading comprehension skills. In a significant study about reading comprehension instruction, Mahdavi and Tensfeldt (2013) conducted a review of the research about reading comprehension strategies that primary level teachers use to teach students with reading deficits and located 25 research studies

that fit their criteria for inclusion in the study. Mahdavi and Tensfeldt found that the following five instructional strategies increase reading comprehension skills: (a) peer learning, (b) self-questioning, (c) story grammar and text structure, (d) story mapping and graphic organizers, and (e) vocabulary development. These strategies require students to move from being a passive reader to an active reader, because they participate in such activities as asking their peers questions about the text and developing a story map of the text. This research study is important to Tier 2 interventions, because students at-risk in reading need to be actively engaged in improving their reading skills.

Intervention programs. Current research about Tier 2 instruction in reading revealed that district educators frequently purchase supplemental instructional programs to support intervention instruction for students who are struggling to improve their reading skills. Some educators have purchased intervention programs that use technology to provide individualized instruction for struggling readers. Some intervention programs emphasize collaboration with other students or the teacher. Other intervention programs use multiple-sensory learning techniques to support teacher instruction in reading skills. These studies are described in the following paragraphs.

Reynolds, Wheldall, and Madelaine (2011) analyzed 10 years of reading intervention research to determine the efficacy of these interventions for struggling readers in the early years of schooling. Reynolds et al. used the following four criteria to rate the effectiveness of these reading interventions: (a) alphabetics, (b) fluency, (c) comprehension, and (d) general reading achievement. The first program that Reynolds et

al. examined was the *Lindamood Phonemic Sequencing Program* (LIPS), which focuses on auditory discrimination in relation to phonemic awareness and phonics and on direct instruction in relation to letter patterns. Reynolds et al. found that the LIPS demonstrated some effectiveness in relation to alphabetics and comprehension. The second primary intervention program that Reynolds et al. reviewed was the *Early Intervention in Reading* (EIR) program, which includes an emphasis on phonemic awareness, repeated passage reading, systemic phonics, guided sentence writing, vocabulary, and comprehension. EIR instruction usually takes place in small-group settings for 15-20 minutes a day for seven months. Reynolds et al. found that the EIS program demonstrated limited effectiveness in relation to alphabetics and reading comprehension. The third intervention program that they examined was the *Peer-Assisted Learning Strategies* (PALS) program, which emphasizes alphabetics, fluency, and comprehension skills taught by a peer or teacher. Students are placed into groups of two, and the teaching role is alternated. The level of difficulty of the curriculum materials is aligned to the reading abilities of lower performance students. This program includes three major sections of instruction: partner reading, paragraph shrinking, and prediction relay. Interventions are usually provided two to three times a week in 30-60 minute sessions. Reynolds et al. found that the PALS program demonstrated limited effectiveness in relation to alphabetics, reading fluency, and reading comprehension. The fourth intervention program was *Reading Recovery*, which emphasizes alphabetics, fluency, comprehension, and general reading achievement. Trained teachers typically use *Reading Recovery* for

students in Grades K-3 in small group settings, most often involving one-on-one instruction in 30 minutes sessions for 12 to 20 weeks, depending on the school intervention program. Reynolds et al. found that *Reading Recovery* demonstrated limited effectiveness in relation to alphabetics, reading fluency and comprehension, and general reading achievement. The fifth reading intervention program that Reynolds et al. reviewed was the *Start Making a Reader Today* (SMART) program, which is a volunteer taught reading program for students in Grades K-2. SMART is a one-on-one reading comprehension program that teachers provide in a 1 to 2 hour period. Reynolds et al. (2011) found that the SMART program showed limited effectiveness in relation to alphabetics, fluency, and comprehension. The sixth reading intervention program that Reynolds et al. described was *Success for All*, which is offered to students in Grades K-1 with an emphasis on phonics, comprehension, and general reading achievement. Teachers provide *Success for All* lessons to groups of 15 to 29 students for up to 90 minutes each day, based on their achievement levels. Students are also periodically regrouped, based on their achievement growth. Reynolds et al. found that *Success for All* showed medium to large student gains in alphabetics, comprehension, and general reading achievement. However, Reynolds et al. concluded that *Reading Recovery* was the only intervention that was effective in relation to all four criteria. This research is significant because teachers often use these types of publisher-prepared programs to support their instruction in Tier 2 reading interventions.

Other researchers have also investigated computer-assisted programs to determine their effectiveness in improving reading outcomes for students. Two groups of researchers explored how a computer-assisted intervention, *Computer-Assisted Remedial Reading Instruction* (CARRI), impacts student achievement for students at-risk in reading (Kyle, Kujala, Richardson, Lyytinen, & Goswami, 2013; Saine, Lerkkanen, Ahonen, Tolvanen, & Lyytinen, 2011). CARRI was originally published in the Finnish language and adapted for English, with the understanding that English-speaking students may benefit from a focus on oral rhyme and the Finnish method of introducing grapheme-phoneme connections, beginning with the most frequent prototypical connections. As an intervention, teachers usually offer CARRI to students in a one-on-one setting in 15 minutes intervals, with an emphasis on auditory and orthographic stimuli. In the first research study, Saine, Lerkkanen, Ahonen, Tolvanen, and Lyytinen (2011) conducted a longitudinal investigation to determine if students in Grade 1 benefit more from a remedial computer-assisted reading program than from classroom remedial instruction. The study involved two different schools and two different groups of students. Group 1 received only remedial reading instruction in the classroom, which consisted of pre-reading skills, word-segmentation, decoding and spelling, and vocabulary instruction. Group 2 received both CARRI and remedial reading instruction in the classroom, which consisted of 15 minutes of CARRI instead of pre-reading instruction. Saine et al. found that students in Group 2 made greater gains than students in Group 1, which is significant because Group 2 received CARRI instruction a Tier 2

intervention. In the second study, Kyle, Kujala, Richardson, Lyytinen, and Goswami (2013) examined the effects of *GraphoGame Rime* and *GraphoGame Phoneme*, two computer-assisted reading programs based on CARRI, as supplemental instruction for students at risk for reading in Grade 2. Kyle et al. found that students who participated in the *GraphoGame Rime* instruction showed improvements in both phoneme and rhyming skills, and students who participated in the *GraphoGame Phoneme* instruction showed improvement in only the phoneme skills. These studies are significant because the results suggest that computer-assisted programs such as CARRI are effective in improving reading outcomes for students. In addition, both of these studies are important to Tier 2 reading instruction, because computer-assisted interventions allow teachers to provide individualized instruction to many students at the same time.

Several groups of researchers have also explored how intervention programs based on the Orton-Gillingham method of remedial reading instruction impact the reading achievement of students at-risk for failure in reading. In the first study, Torgesen, Wagner, Rashotte, Herron, and Lindamood (2011) compared the *Lindamood Phonemic Sequencing* (LIPS) program to the *Read Write and Type* (RWT) program to determine the supplemental computer program with the highest rate of student success. Torgensen et al. reinforced teacher instruction of oral awareness and phonemic decoding and encoding skills with parallel computer instruction designed to mirror the teacher-led instruction. Torgensen et al. found that although the LIPS program had slightly stronger outcomes than the RWT program, the difference was not statistically significant.

Torgensen et al. also found that students who received reading interventions using both the LIPS program and the RWT program showed significant achievement outcomes for reading skills over the control group at the end of Grade 1. In addition, at the end of Grade 2, students continued to show significant achievement in phonemic decoding, rapid naming, and spelling over the control group. In the second study, Chia and Houghton (2011) examined the effectiveness of the Orton-Gillingham method by using an experimental research approach with primary school-aged students in Singapore who were identified with reading deficits. Chia and Houghton found that the Orton-Gillingham method of reading instruction significantly increased student word recognition and word expression. In the third study, Mihandoost, Elias, Nor, and Mahmud (2011) examined the effectiveness of the *Barton Reading and Spelling System* on the reading fluency and motivation of dyslexic students. This program includes ten lessons that teachers provide to students in a one-on-one setting three times a week for 12 weeks. Each lesson is 45 minutes and is repeated until the student retains the skills. Mihandoost et al. found that dyslexic students in the experimental group who participated in the *Barton Reading and Spelling System* outperformed the control group in reading fluency and motivation to read. Thus, this research about programs that use the Orton-Gillingham method of remedial reading instruction is important to Tier 2 reading interventions because these programs, which are designed for small group instruction, have resulted in improved student achievement in reading.

Other researchers have examined how writing programs impact the reading achievement of primary school students. Hooper et al. (2013) examined how Grade 2 students respond to Tier 2 instruction when teachers use a writing program known as the *Process Assessment of the Learner* that emphasizes letter recognition, spelling, handwriting, and composition skills. This program provides increasing intensity of instruction at each ascending tier of the RTI model. Teachers administer writing lessons twice a week for 25 minutes in a small group setting over a 12-week period. Hooper et al. found that those students who participated in these writing lessons during Tier 2 interventions demonstrated modest gains in writing comprehension skills and handwriting skills. In addition, Hooper et al. found that students who participated in these lessons demonstrated significant gains in alphabetic skills, which improves reading fluency and comprehension skills.

The literature review also revealed an additional eight studies that explored the effectiveness of specific reading intervention programs. In the first study, Holmes, Reid, and Dowker (2012) explored how a structured reading intervention program impacts long-term student achievement in reading. *Catch Up Literacy (*CUL) is a structured intervention program that emphasizes word recognition and language comprehension skills. The CUL program is designed to be administered by teachers and paraprofessionals to students ages 6-13 who are struggling with reading acquisition in a one-on-one setting twice a week. Holmes et al. found that reading impaired students made significant gains in reading achievement compared to non-impaired students.

In the second study, Partanen and Siegel (2014) examined the longitudinal effects of early interventions using two literacy intervention programs, *Firm Foundations* in kindergarten and *Reading 44* in Grades 1-7. Partanen and Siegel noted that the *Firm Foundations* intervention program includes "rhyming, segmenting sounds, blending sounds, matching sounds with their letters and print awareness" (p. 672). Identified students receive small group instruction 3 to 4 times a week in 20 minute sessions each. The *Reading 44* program is focused more on reading comprehension than phonological awareness skills. Students in Grades 1-7 who are at-risk in reading receive Tier 2 intervention instruction from their classroom teachers. Partanen and Siegel found that the use of these two early intervention programs decreased the number of students who were considered at-risk in reading from 22% in kindergarten to 6% in Grade 7.

In the third study, Rodriquez and Denti (2011) explored how to improve reading outcomes for English Language Learners (ELL) in Grade 2. They investigated the use of the *Phonics for Reading* program, which uses a systematic approach that provides reading instruction to students identified with reading difficulties. Teachers use *Phonics for Reading* to help students examine the structure of words "using letter-sound correspondence, word endings, and affixes" (Rodriquez & Denti, 2011, p. 14). The classroom teacher provides intervention instruction for 30 minutes each day during the classroom literacy instruction block of 90 minutes. Each student is given a personal fluency goal to meet. Students are monitored weekly and might be reassigned to different tiers within the RTI model based on their weekly progress. Teachers also make

weekly adjustments to Tier 2 intervention lessons based on student progress. Rodriquez and Denti discovered that students in Grade 2 who participated in the *Phonics for Reading* intervention showed greater growth in passage reading than students who participated in the Houghton Mifflin intervention.

In the fourth study, Stockard and Engelmann (2010) examined the development of academic success for students in Grades K-3 in relation to the impact of direct instruction through an intervention program known as *Reading Mastery*, which is a systematic and explicit intervention program that includes teacher modeling, student practice, and student mastery of instructed reading skills. Students learn how to decode words first before they learn how to read fluently. Stockard and Engelmann found that students who received supplemental instruction with *Reading Mastery* showed significant growth for nonsense word fluency by the middle of Grade 1 and that this growth continued through Grade 3.

In the fifth study, Goss and Brown-Chidsey (2012) compared the effectiveness of Tier 2 intervention programs of *Reading Mastery* and *Fundations Double Dose* for Grade 1 students. *Reading Mastery* lessons are taught in three stages, which include teacher modeling, student practice, and student mastery of instructed reading skills. *Fundations Double Dose* is a systematic and explicit Tier 2 reading intervention that is based on the *Wilson Reading System* and designed for students in Grades K-3. Goss and Brown-Chidsey (2012) found that Grade 1 students who participated in the *Reading Mastery*

intervention program scored higher on all reading achievement measures than students who participated in the *Fundations Double Dose* intervention program.

In the sixth study, Rose and Magnotta (2012) examined the effects of an arts-based reading program, known as *Reading in Motion*, on students in Grades K-3 during Tier 2 interventions. Students who participated in the study attended one of four schools located in low socioeconomic neighborhoods characterized by high crime that often lacked stable homes and adequate food. Rose and Magnotta found that the use of this arts-based reading program, which focused on phonemic awareness, systemic phonics, and oral reading fluency, significantly increases reading achievement for students in Grades K-3 because teachers are able to provide positive feedback in small group settings.

The last two studies explored the effectiveness of the *Early Reading Intervention* (ERI) program as a Tier 2 intervention. In the first study, Little et al. (2012) compared ERI to other teacher-developed interventions that included *Reading Mastery Plus*, *Road to the Code*, and others, based on core classroom instruction. Little et al. found that students who participated in the ERI intervention program significantly outperformed students in teacher-designed interventions in relation to sound matching, nonsense word fluency, oral reading fluency and written spelling. In the second study, Coyne et al. (2013) explored the effectiveness of adjusting the ERI intervention program based on student performance. Coyne et al. found that students who participated in an adjusted ERI intervention program significantly outperformed those students who participated in

an unadjusted ERI intervention program. Coyne et al. also found that students who participated in the adjusted ERI intervention program in kindergarten continued to significantly outperform students who participated in the unadjusted ERI intervention program at the end of Grade 1.

Thus, current research about instruction related to Tier 2 reading interventions indicate that many teachers use many different kinds of publisher-prepared intervention programs, which have been found to be effective in improving reading achievement for students, particularly in Grades K-3. Some intervention programs are most effective in improving specific reading deficits for students such as phonic awareness and reading fluency. In addition, computerized interventions have been particularly effective in improving reading achievement because they give instant feedback and support individualized instruction of multiple students at one time.

Progress Monitoring in Tier 2 Interventions

For this study, the purpose of progress monitoring is "to assess students' academic performance, to quantify a student rate of improvement or responsiveness to instruction, and to evaluate the effectiveness of instruction" (National Center for Learning Disabilities, 2015). Progress monitoring is considered an efficient and valid tool to gauge reading achievement using a predetermined timeline and cut-point in order to provide data for reading placement and instruction in the RTI tiers and in special education (Goetze & Burkett, 2010; Kashima, Schleich, and Spradlin, 2009; Mellard, McKnight, & Woods, 2009). Progress monitoring measurements are also often used as part of a

universal screening process, because they seek the same information as universal screens in determining the effectiveness of instruction through changes in student achievement (Fletcher & Vaughn, 2009). Progress monitoring should take place every one to three weeks at each level of the RTI model (Kashima et al., 2009; Mellard et al., 2009; Shepherd & Salembier, 2011). Student learning is often monitored at specific grade levels in relation to the following literacy components: (a) oral expression, (b) listening comprehension, (c) written expression, (d) basic reading skills, (e) reading fluency skills, and (f) reading comprehension skills (NJCLD, 2011). The following reading skills are also often regularly monitored: (a) phonological awareness, (b) letter identification, (c) sight vocabulary, (d) reading fluency, (e) decoding skills, (f) vocabulary knowledge, (g) reading comprehension skills, (h) motivation, (i) stamina, (j) writing about reading, and (k) text level (Lipson, Chomsky-Higgins, & Kanfer, 2011). Progress monitoring in Tier 2 takes place frequently, often once a week for nine weeks, before student progress is assessed for movement within the RTI tiers (Kashima et al., 2009).

Teachers often used curriculum-based measurements to monitor student progress in reading. In a multi-study evaluation of schedule, duration, and dataset quality on progress monitoring outcomes, Christ, Zopluoglu, Monaghen, and Norman (2013) contended that curriculum-based measurements are "uniquely suited to improve student achievement, especially as applied within contemporary models of data-based problem solving and response interventions" (p. 19). Curriculum-based measurements are based on standardized grade level content and are commonly used for progress monitoring in

Grades 1-6 (Kilgus, Methe, Maggin, & Tomasula, 2014). These measurements usually consist of a word-list or short passage at grade level, which takes students 1 to 3 minutes to complete. Correct responses are recorded and graphed over time and compared against grade level benchmarks (Fletcher & Vaughn, 2009; Merino & Beckman, 2010). The following curriculum-based measurements are most frequently cited in current research: (a) *CBM Oral Reading* (CBM-R), (b) *AIMSweb Oral Reading Fluency*, (c) *Dynamic Indicators of Basic Early Literacy Skills* **(**DIBELS), and (d) R*unning Records*.

A review of the literature revealed five research studies that examined the curriculum-based measurement known as *CBM Oral Reading* (CBM-R), which measures oral reading fluency rates. In the first study, Kilgus, Methe, Maggin, and Tomasula (2014) conducted a meta-analysis of 34 research studies regarding the use of CBM-R in a universal screening process. Kilgus et al. found that educators use CBM-R to distinguish between at-risk and at grade-level students in terms of oral fluency. Kilgus et al. recommended that caution be used when using CBM-R to diagnose student reading deficits because the results may not pinpoint specific deficits.

In the second study, Christ, Zopluoglu, Monaghen, and Norman (2013) examined the schedule, duration, and dataset quality of CBM-R for Tier 2 progress monitoring. Christ et al. first conducted five separate studies to better understand "the validity, reliability, precision, and diagnostic accuracy of progress monitoring across a variety of progress monitoring durations, schedules, and dataset quality conditions" (p. 19). Christ et al. then conducted a sixth study to evaluate the relationship between the different

components of progress monitoring, such as duration, dataset quality, and schedule. Christ et al. found that the validity of the CMB-R outcomes fluctuate because the intensity of instruction and the schedule of measurement affect the outcome of the measured skill.

In the third study, Reschly, Busch, Betts, Deno, and Long (2009) examined the correlation between CBM-R and other standardized measures of reading achievement for students in Grades 1-6. Reschly et al. examined three decades of CBM-R research regarding the correlation rate of CBM-R with state and national assessments. Reschly et al. found that the correlation between CBM-R and these assessments was moderately high at .67. Reschly et al. also found that the correlation was higher between curriculum-based measurements and national assessments than between curriculum-based measurements and state assessments. This research is significant because progress monitoring tools are often used to predict student achievement outcomes on state and national assessments, even though these predictions may not be accurate.

In the fourth study, Oslund et al. (2012) examined curriculum-based measurements in oral reading in relation to predicting the responses of kindergarten students to early reading interventions. Oslund et al. found that curriculum-based measurements such as the *Dynamic Indicators of Basic Early Literacy Skills* (DIBELS) and mastery-checks that measure phonemic awareness and alphabet decoding significantly predict end-of-year reading achievement. Oslund et al. concluded that the

use of these curriculum-based measurements provides effective assistance to educators in evaluating student progress in reading and determining possible interventions.

A review of the research literature also revealed additional studies that examined the use of *AIMSweb Oral Reading Fluency* and the *Maze* as curriculum-based measurements to monitor student progress. AIMSweb is a comprehensive computer-based measurement endorsed by the National Center of RTI that accommodates universal screening, benchmarks, and progress monitoring measurements and produces individual student outcomes based on measurements taken (Ryan, Kaffenberger, & Carroll, 2011). The *Maze* is a curriculum-based measure that teachers use to assess students' vocabulary knowledge and reading comprehension abilities (Merino & Beckman, 2010). Merino and Beckman (2010) examined curriculum-based measurements as predictors for student success on the *Measures of Academic Progress* (MAP) in the state of Nebraska. Merino and Beckman found that the *AIMSweb Oral Reading Fluency* was better than the *Maze* at predicting student reading scores on the MAP in Grades 2-5, particularly at Grade 2. Merino and Beckman also found that the *AIMSweb Oral Reading Fluency* was valid in predicting reading outcomes on the MAP for English language learners.

In a related study, Ardoin and Christ (2009) examined curriculum-based measurements for oral reading. They investigated standard errors related to progress monitoring outcomes from three specific curriculum-based measurements: DIBELS, AIMSweb, and *Procedures for Reading*. Teachers administered these measures once a week for 12 weeks to Grade 2 and 3 students. Ardoin and Christ (2009) found that

Procedures for Reading had the smallest standard error, followed by AIMSweb and DIBELS, indicating that *Procedures for Reading* is a more valid measure to use for monitoring student progress. Ardoin and Christ recommended that educators should not compare a student's performance across these two sets of passages. Therefore, if a student transfers from one school using DIBELS passages to monitor progress to a school using AIMSweb passages to monitor progress, Ardoin and Christ contended that "the student's growth should not be estimated using his or her performance on passages administered at the other school" (p. 279).

Three research studies were found in this review that explored the use of DIBELS as a curriculum-based measurement to monitor student progress in relation to the following reading skills: (a) initial sound fluency, (b) letter naming fluency, (c) phonemic segmentation fluency, (d) nonsense word fluency, (e) oral reading fluency, and (e) retell fluency. In the first study, Paleologos and Brabham (2011) examined the effectiveness of DIBELS related to oral reading fluency (ORF) for predicting reading comprehension of high-income and low-income students on standardized tests. Paleologos and Brabham (2011) found that DIBELS is effective in predicting reading outcomes for high-income students on standardized tests. Paleologos and Brabham also found that vocabulary and oral language skills are critical factors that influence literacy achievement, "especially for low-SES children, who are less likely to have large vocabularies similar to their wealthier peers" (p. 70). Paleologos and Brabham concluded that low-income students may need a multidimensional test battery to accurately predict their reading achievement. In the

second study, Roehrig, Petscher, Nettles, Hudson, and Torgesen (2008) examined the correlation between DIBELS-ORF, the Florida Comprehensive Assessment Test (FCAT), and the Stanford Achievement Test (SAT-10) for students in Grade 3. They found significant correlation between the DIBELS ORF, the FCAT, and the SAT-10 in predicting reading comprehension outcomes for Grade 3 students in the spring of the year. In the third study, Goffreda, Diperna, and Pedersen (2009) examined the predicative validity of the DIBELS on the California Achievement Test (CAT) and the Pennsylvania System of School Assessment (PSSA) for students in Grades 2 and 3. Goffreda et al. found that students' oral reading fluency scores on DIBELS accurately predicted student reading scores on both the CAT and PSSA. Goffreda et al. also found that oral reading fluency measures are not usually part of a benchmark or progress monitoring battery until mid-year of Grade 1. Thus, these studies are relevant to Tier 2 reading interventions because teachers often use these types of curriculum-based measurements to inform Tier 2 instruction.

Another of form of progress monitoring that can also be used as a universal screening tool is running records. This progress monitoring tool is different from curriculum-based measurements in that it provides teachers with diagnostic and cumulative oral reading and reading comprehension performance data (Goetze & Burkett, 2010). To maintain these records, teachers use standardized codes to mark oral reading abilities in a multi-layered analysis of students' reading abilities. Teachers maintain running records data that includes (a) correct words read per minute, (b) oral reading

accuracy rate, (c) self-correction rate, (d) miscues, (e) reading comprehension, (f) current book or passage level, (g) student reading behaviors, and (h) strategies to adjust reading instruction (Goetze & Burkett, 2010).

Two research studies were found in this review that examined the use of running records. In the first study, Goetze and Burkett (2010) investigated progress monitoring with whole text in a comparison of running records and curriculum-based measures. Goetze and Burkett found that oral fluency curriculum-based measurements provide a quick glance at a student's reading abilities, but running records provide in-depth diagnostic data "that provide the teacher with more information about how a reader is processing text" (p. 311). In the second study, Compton et al. (2010) explored how teachers select at-risk first grade readers for early intervention by using a two-stage screening process. Compton et al. examined how teachers use word identification, running records, and oral reading fluency as additional screens to increase the "accuracy of a base model comprising phonemic awareness, rapid naming skill, oral vocabulary, and initial word identification fluency" in order to decrease the number of false positive students (p. 329). The word identification measurement requires students to read as many as possible of the presented 50 words randomly selected from the 500 most frequently used words at their grade level in one minute. The oral reading fluency screen is a comprehensive reading assessment battery that includes: (a) untimed decoding skill, (b) untimed word identification skill, (c) sight word reading efficiency, (d) phonemic decoding efficiency, and reading comprehension. Compton et al. found that the

phonemic decoding efficiency of the oral reading fluency screen reduced the greatest number of true negatives. Both of these studies are significant because running records provide an effective diagnostic picture of an individual student's reading fluency.

Thus, progress monitoring is an important component of Tier 2 interventions because they are tools that teachers use to determine the effectiveness of an intervention in improving individual student reading skills. Progress monitoring is also the first step in the intervention process that informs teachers of student placement needs related to Tier 2 instruction. Oral fluency curriculum-based measurements are the most common form of progress monitoring in Tier 2 instruction, but they only inform educators of student reading speed that may indicate possible learning deficits. Running records are also used to assess student performance in reading and to provide teachers with a multi-layered picture of student reading abilities that can be used to diagnose student learning deficits. This research is significant because teachers need valid progress monitoring tools to monitor student achievement and the effectiveness of the intervention for individual students.

Summary and Conclusions

In summary, this chapter included a review of current research related to the Tier 2 placement, instruction, and progress monitoring of students in Grades 1-3. In relation to placement of young students in Tier 2 interventions, research indicated that teacher use of multiple diagnostic assessments related to phonological awareness and reading fluency accurately determines those students in the early elementary grades who need Tier 2

reading interventions. Concerning instruction in Tier 2 interventions, research revealed that specific instructional strategies such as small group instruction, cooperative learning, and computer- assisted programs improve student achievement in reading. In relation to progress monitoring in Tier 2 interventions, research indicated that curriculum-based measurements and running records present an accurate picture of students' reading progression and the effectiveness of interventions to improve that progression.

Several themes emerged from this literature review. The first theme was that students should be universally screened based on grade-level standards to determine current reading performance and possible learning deficits that may require intervention. Researchers agree that universal screening should take place tri-annually, beginning in kindergarten (Goetze & Burkett, 2010; Kilgus, Methe, Maggin, & Tomasula, 2014; Shepherd & Salembier, 2011). Students who demonstrate specific reading deficits may require additional screenings to determine appropriate placement and instruction in the RTI model (Crepeau-Hobson & Bianco, 2011; Gersten et al., 2009; Gilbert, Compton, Fuchs, D., & Fuchs, L. S., 2012; Kashima, Schleich, & Spradlin, 2009; Lam & McMaster, 2014).

The second theme was that multiple diagnostic assessments are needed to determine reading deficits and appropriate reading intervention placement. Research indicates that a diagnostic assessment such as rapid automatized naming skills (RAN) measuring nonlinguistic fluency effectively predicts student reading achievement in Grades K-3 (Oslund et al., 2012; Park & Lombardino, 2013). In addition, diagnostic

assessments of phonological awareness skills effectively determine reading achievement levels for students in Grades K-2 (Fumes & Samuelsson, 2010; Lam & McMaster, 2014; Wolff, 2014). Other current research suggests that teacher judgment and family history effectively predict reading performance and determine placement and intervention (Berninger & Richards, 2010; Black et al., 2012; Harlaar et al., 2010; Snowling, Duff, Petrou, & Schiffeldrin, 2011; Wanzek, Roberts, & Al Otaiba, 2013). Most researchers suggest that a combination of diagnostic assessments will best determine placement and intervention.

The third theme was that teacher use of specific instructional strategies improves student reading achievement. The intensity of instruction as an instructional strategy has resulted in improved reading performance for students (Carson, Gillon, & Boustead, 2013; Denton et al., 2011; Fuchs, D., Fuchs, L. S., & Vaughn, 2014; Kupzyk, Daly, Ihlo, & Young, 2012). Grouping is another effective instructional strategy for improving reading performance, particularly if the size of the group is small (Chambers et al., 2011; Fuchs et al., 2014; Lam & McMaster, 2014; Slavin, Lake, Davis, & Madden, 2011). Cooperative learning has proved to increase student achievement (Chambers et al., 2011; Denton et al., 2011; Lin, Chen, Yang, Xiet, & Lin, 2014; Mahdavi & Tensfeldt, 2013; Rojas-Drummond, Mazón, Littleton, & Vélez, 2014; Slavin et al. 2011). In addition, interventions that include multi-sensory instruction, which emphasize touch, smell, hearing, and taste, improve student reading skills (Chia & Houghton, 2011; Mihandoost,

Elias, Nor, & Mahmud, 2011; Reynolds, Wheldall, & Madelaine, 2011; Torgesen, Wagner, Rashotte, Herron, & Lindamood, 2011).

The fourth theme was that research indicates that students who participate in computer-assisted intervention programs improve their reading skills (Chambers et al., 2011; Kyle, Kujala, Richardson, Lyytinen, & Goswami, 2013; Reynolds, Wheldall, & Madelaine, 2011; Saine, Lerkkanen, Ahonen, Tolvanen, & Lyytinen, 2011; Torgesen, Wagner, Rashotte, Herron, & Lindamood, 2011). Computer-based intervention programs give students the opportunity to work in one-on-one learning situations with assistance from the teacher. One example of an effective computerized reading intervention program is the *Finnish GraphoGame* that focuses on rhyme and phonemic skills (Kyle et al., 2013; Saine et al., 2011). Another example is the *Lindamood Phonemic Sequencing* computerized program that focuses on reading, spelling, and speech skills (Reynolds et al., 2011). Computerized intervention programs often include colorful graphics, voiced instruction, and immediate feedback, which may be factors in student success.

The fifth theme was that curriculum-based measurements are commonly used to monitor student progress in reading. These measurements are usually aligned to the outcomes of the core reading programs that teachers use in Tier 1 interventions. DIBELS, *AIMsweb*, and CBM-R, which assess student reading fluency, are some of the most common curriculum-based measurements. These measurements are also commonly used for universal screening (Fletcher & Vaughn, 2009; Gilbert, Compton, Fuchs, D., & Fuchs, L. S., 2012; Kashima, Schleich, & Spradlin, 2009; Kilgus, Methe, Maggin, &

Tomasula, 2014). However, researchers recommended that curriculum-based measurements should be interpreted differently when used as a universal screen to determine classroom cut scores and instruction than when used as a progress monitoring tool that measures individual academic growth (Kilgus et al., 2014).

Several research gaps emerged from this review. One gap was the lack of research about the correlation between the outcomes of national and state assessments and curriculum-based measurements to predict reading deficits and type of intervention instruction. National and state assessments and curriculum-based measurements are often used to predict reading deficits and determine intervention instruction, even though their predictive validity varies (Goffreda, Diperna, & Pedersen, 2009; Merino & Beckman, 2010). Another gap concerned the lack of research about the predictive strength of universal screening tools and progress monitoring measurements to accurately identify students in need of reading interventions (Shepherd & Salembier, 2011; Lam & McMaster, 2014; Christ, Zopluoglu, Monaghen, & Norman, 2013; Taub & Szente, 2012; Reschly, Busch, Betts, Deno, & Long, 2009). More research should also be conducted about effective Tier 2 reading interventions, particularly in relation to the types of interventions that are most effective for teaching phonological awareness, reading fluency, and comprehension (Denton et al., 2011; Goss & Brown-Chidsey, 2012; Holmes, Reid, & Dowker, 2012; Hooper et al., 2013; Reynolds, Wheldall, & Madelaine, 2011). In addition, a lack of research was found regarding teacher judgments about which students are at-risk for reading deficits (Compton et al., 2010; Fletcher & Vaughn,

2009; Speece et al., 2012; Wanzek, Roberts, and Otaiba, 2013). Another gap found in the literature research was the lack of research about specific strategies that teachers use during Tier 2 instruction (Coyne et al., 2013; Denton et al., 2010; Little et al., 2012; Spörer, Brunstein, & Kieschke, 2009; van de Pol & Elbers, 2013). Therefore, to address these research gaps, I explored how teachers used assessments and instruction in Tier 2 interventions for students in Grades 1-3 who were identified at-risk in reading.

In Chapter 3, I describe the research method that I used to conduct this study, including the research design and rationale, the selection of participants, and the data collection tools. In addition, I describe the data collection procedures and the data analysis plan. I also discuss issues of trustworthiness related to qualitative research and the ethical procedures that I followed in conducting this qualitative research.

Chapter 3: Research Method

The purpose of this study was to explore how teachers in Grades 1-3 used assessments and instruction in Tier 2 interventions for students at-risk in reading. To accomplish that purpose, I described the types of diagnostic assessments these teachers used to determine student placement and to inform their instruction in Tier 2 reading interventions. In addition, I described the process of scaffolding that these teachers used to provide instruction for students in Tier 2 reading interventions and how they monitored student progress in Tier 2 reading interventions.

In this chapter, I describe the research method that I used to conduct this study. I describe the purpose of the study, the research design and rationale, the selection of the participants, and my role in the research process. In addition, I describe the instruments that I used to collect data, and I discuss how the data were collected and analyzed. I also discuss issues related to the trustworthiness and ethics of qualitative research.

Research Design and Rationale

I developed the following research questions based on the conceptual framework and the literature review for this study. The central research question was: How do teachers use assessments and instruction in Tier 2 interventions for students in Grades 1-3 who are identified at risk for failure in reading? The four related research questions were:

1. How do teachers use diagnostic assessments to determine student placement in Tier 2 reading interventions?

2. How do teachers use diagnostic assessments to inform their instruction in Tier 2 reading interventions?
3. How do teachers use the scaffolding process to provide instruction for students in Tier 2 reading interventions?
4. How do teachers monitor student progress in Tier 2 reading interventions?

The design that I used for this qualitative research was a single case study. According to Yin (2104), a case study is used to investigate "a contemporary phenomenon (the "case") in its real-life world context, especially when the boundaries between the phenomenon and context are not clearly evident" (p.16). For this study, the boundaries between the contemporary phenomenon or case of Tier 2 reading interventions and the real-life context of instruction for these interventions were often not clear. A case study design allowed for an in-depth examination of these boundaries in the natural setting of the classroom. Yin also noted that case study design is unique in that multiple sources of evidence are used to determine findings. For this study, I gathered and analzed data gathered from such sources as individual interviews of teachers in Grades 1-3 who provided Tier 2 interventions for students at-risk in reading, observations of instruction in Tier 2 interventions in their classrooms, and documents related to Tier 2 assessment and instruction.

In determining the research design for this study, I considered other qualitative designs, including grounded theory, phenomenology, narrative, and ethnography. Researchers using a grounded theory design conduct in-depth interviews with more than

20 individuals in order to develop a theory grounded in that data (Creswell, 2007). Because the purpose of this study was not to develop a theory about Tier 2 interventions, I did not select this design. Phenomenological researchers seek to understand a shared experience through the eyes of many individuals using lengthy interviews to describe that shared experience (Creswell, 2007). I did not select this research design because my purpose was not to describe the lived experiences of teachers in relation to Tier 2 interventions in reading. Narrative research involves analysis of one person's experience of an event or one person's life (Creswell, 2007). Researchers using this design often focuse more on the past than the present; as such, the design does not allow for observation of present realities (Creswell, 2007). I did not choose narrative design because the purpose of this study was not to describe teachers' perceptions of Tier 2 interventions. I chose case study design for this study because the purpose of this study was to describe how teachers used assessment and instruction at one elementary school during Tier 2 interventions for students at-risk in reading in Grades 1-3, using multiple sources of evidence to present a rich picture of the phenomenon of Tier 2 reading interventions in the primary grades.

Role of the Researcher

I was responsible for the collection, analysis, and interpretation of all data. Therefore, the potential for researcher bias existed. Creswell (2007) and Merriam (2009) suggested that the researcher must set aside all prejudgments and focus on the current activity to develop an accurate picture of the activity. To ensure that I set any

prejudgments I may have had aside, I used specific strategies to address potential bias. One of these strategies was reflexivity. Merriam defined reflexivity as "critical self-reflection by the researcher regarding assumptions, worldviews, biases, theoretical orientation, and relationship to the study that may affect the investigation" (p. 229). I used the strategy of reflexivity by recording my concerns, questions, and decisions during the data collection and analysis process. Another strategy that I used was adopting a stance of neutrality with regard to the phenomenon. Patton (2002) defined this stance as trying not to manipulate data analysis to support preconceived ideas. Therefore, I analyzed data with openness to new conclusions of the observed phenomenon.

My employment did not represent a conflict of interest for this study. I had been a full-time, home school, and substitute teacher in multiple schools and districts for the past 16 years in the state in which I conducted my research. However, at the time of this study, I was not employed full-time in any district in the state.

Participant Selection

Participants included three teachers from one public elementary school in the state that was the focus of this study. Participants included one teacher from Grade 1, one teacher from Grade 2, and one teacher from Grade 3 at each elementary school in the district I studied. I selected potential participants using purposeful sampling, based on the following inclusion criteria: (a) participants must be employed as a full-time teacher in Grades 1, 2, or 3 at the research site, (b) participants must be implementing Tier 2 reading interventions in their classrooms, and (c) participants must have taught 2 or more

years in order to demonstrate some experience in implementing Tier 2 interventions. According to these criteria, participants could be classroom teachers, reading specialists, Title I teachers, or special education teachers who implemented Tier 2 reading interventions for students at risk in reading in Grades 1-3.

Instrumentation

For this study, I designed two instruments. The first instrument was an interview guide that I used for the teacher interviews (Appendix C). The second instrument was an observation data collection form that I used during my observations of Tier 2 reading interventions in the classrooms of these interviewed teachers (Appendix D). I aligned the interview questions and observation instrument with the research questions to increase the trustworthiness of this qualitative research (Appendix E). In addition, I asked an expert panel, which included two or three colleagues with advanced degrees in education, to review the alignment of these instruments with the research questions.

Interview Guide

I designed the interview guide based on guidelines that Merriam (2009) presented for conducting effective interviews for qualitative research. In these guidelines, Merriam noted three different interview structures and six types of interview questions that can be used to draw information from the interviewee about the study's phenomenon. I chose to conduct a structured interview, which meant that the interview questions were predetermined and the questions were asked in a predetermined order. I

designed these interview questions to answer the central and related research questions for this study. The interview guide included eight open-ended questions that began with "what" and "how" to encourage in-depth responses from participants. I first asked teachers to describe the RTI model or process that they used at their school and to describe the reading curriculum that they used for all students in their classrooms. I also asked teachers how they determined student placement in Tier 1 and Tier 2 reading interventions in their classrooms and how they used diagnostic assessments and progress monitoring data to inform their instruction in Tier 2 reading interventions. In addition, I asked teachers about the types of curricular materials they used in Tier 2 interventions and how they provided instruction for students in Tier 2 reading interventions. Finally, I asked teachers to describe some specific strategies that they used to scaffold instruction during Tier 2 intervention and how they monitored student progress in Tier 2 reading interventions.

Observation Data Collection Form

For this study, I designed the observation data collection form in relation to the six criteria that Merriam (2009) recommended for conducting observations in any setting for qualitative research. In relation to these six criteria, I recorded both field notes and researcher reflections. The first criterion was the physical setting of the observation. For this study, I described the use of instructional space, the technology resources, and the print and non-print resources that were available during these Tier 2 reading interventions. The second criterion was the participants who were present during the

observation. For this study, I recorded the number of students and the number of adults (and their gender) who were present during the Tier 2 intervention. The third criterion was the activities and interactions that occurred during the observation. For this study, I recorded the intervention lesson in terms of (a) the objective; (b) data, modeling, and checking for understanding; (c) guided practice; and (d) independent practice, based on lesson design research by Hunter (1984). The fourth criterion was teacher use of a scaffolding process that included the three concepts of contingency, fading, and release of responsibility, based on van de Pol, Volman, and Beishuizen (2010) research on scaffolding in teacher-student interactions. The fifth criterion that Merriam suggested was the conversations that take place during the observation. For this study, I renamed this criterion as student engagement, and I recorded general conversation among students and teachers and between teacher and students. The sixth criterion was the researcher's behavior during the observation. For this study, I described my location in the classroom during the observation, how my presence was perceived by students and the teacher, and how I minimized my presence during the observation.

Procedures for Recruitment, Participation, and Data Collection

In relation to recruitment, I obtained a letter of cooperation from the individual at the participating school district who was responsible for approving doctoral research in the district, who was the superintendent. I also sought a letter of cooperation from the principal at the participating school site. The school site was determined based on recommendations of the district superintendent.

In relation to participation, the school principal provided me with a list of those teachers in Grades 1, 2, and 3 who were potential participants, including reading specialists, based on purposeful sampling with a criterion-based logic. I invited all potential participants to participate in the research study by sending them a letter of invitation and a consent form. If they were interested in participating in this study, I asked them to send me a signed consent form in the enclosed self-addressed and stamped envelope as soon as possible. I selected the first teacher or reading specialist at each grade level at each site who returned a signed consent form to me. The principal did not know my final participant selection.

In relation to data collection, I first contacted each participant to schedule a date and time for the individual interview and the classroom observation of a Tier 2 reading intervention. During non-instructional hours, I conducted the individual interview in an office conference room to ensure privacy. I audio recorded each teacher interview for accurate transcription. I also recorded notes during the interviews to clarify participant responses when needed. During the observations, I used the observation data collection form to record field notes and researcher reflections for each of the established criteria. In addition, I collected supporting documents from the school district web site, the school web site, and school staff that included: (a) the district or school RTI plan, (b) criteria for student placement in Tier 2 interventions, (c) diagnostic assessments used to determine placement in Tier 2 interventions, (d) implementation guidelines regarding use of Tier 2 instructional materials and strategies, (e) progress monitoring guidelines used during Tier

2 interventions, and (f) state reading standards for students in Grades 1-3 aligned with the Tier 2 reading interventions.

Data Analysis Plan

For this study, I conducted a single case analysis. At the first level of this single case analysis, I used the line-by-line strategy that Charmaz (2006) recommended for qualitative research (or open coding) in order to code the interview and reflective journal transcripts. This line-by-line strategy allows the researcher to stay as close to the data as possible by selecting key words and phrases from a sentence and presenting them with a word ending with -*ing*. I then used the constant comparative method (or axial coding) that Merriam (2009) recommended for constructing categories from my coded data. I did not use computer software to construct the codes. In addition, I used a content analysis to examine the documents, which involved describing the purpose, content, and use of each document (Gall, Borg, & Borg, 2007). At the second level of this single case analysis, I examined the categories that I had constructed across all data sources (selective coding) to determine emerging themes and discrepant data, which were the basis for the key findings (Yin, 2014; Merriam, 2009). I analyzed these key findings in relation to the central and related research questions. I also interpreted these findings in relation to the conceptual framework and the literature review for this study.

Issues of Trustworthiness

Trustworthiness in qualitative research can be a challenge, because the research findings evolve through undefined outcomes (Merriam, 2009). Qualitative research

studies define what researchers will examine, but not what researchers think they will find. Trustworthiness of the research findings is vital to the user of the findings, particularly if the findings need to be replicated. The trustworthiness of qualitative research is reinforced through my use of specific strategies that increase the credibility, transferability, dependability, and conformability of this research, which are explained in the following paragraphs.

Credibility

Merriam (2009) defined credibility as the internal validity of qualitative research and that asks "how research findings match reality" (p. 213). Merriam noted that the credibility of qualitative research can be enhanced through the use of the following strategies: triangulation, member checks, and adequate engagement in data collection. For this study, I used the strategy of triangulation by comparing and contrasting the findings from each data source. In addition, I used the strategy of member checks by asking participants to review the tentative findings of this study for their plausibility. I also used the strategy of adequate engagement in data collection by spending several months in the data collection process until I believed saturation had been reached.

Transferability

Merriam (2009) defined transferability as the extent to which the findings can be used in other situations. Qualitative research findings should be used with caution to explain or apply to other situations because the transferability of research findings often

lies with the individual who is applying them to other situations. Merriam recommended the strategies of rich thick description and typicality of the sample to improve the transferability of qualitative research. For this study, I used the strategy of rich thick description by describing in detail the research setting, the participants, the data collection and analysis processes, and the findings. I also selected a research site that I believed was typical of how Tier 2 intervention instruction was implemented at the elementary school level across this western state.

Dependability

Dependability is the extent in which the research findings can be replicated (Merriam, 2009). Dependability is more difficult to ensure in a qualitative research study, because human nature "is never static" (Merriam, 2009, p. 220). Merriam noted that researchers can use the following strategies to improve the dependability of qualitative research: triangulation, peer examination, investigator's position, and the audit trail. To improve the dependability of this study, I used the strategy of triangulation by comparing and contrasting multiple data sources, including interviews, observations, and documents. I also used the strategy of an audit trail by maintaining a researcher's journal in which I described in detail about how I collected and analyzed data to reach the study findings. The journal also included my reflections about research-related issues that emerged over the course of the study.

Confirmability

Confirmability is the objectivity of qualitative research. Merriam (2009) suggested that researchers use the strategy of reflexivity to improve the objectivity of qualitative research. Merriam defined reflexivity as "the process of reflecting critically on the self as researcher, the 'human as instrument'" (2009, p. 219). Researchers need to explain their biases, dispositions, and assumptions related to their research so that others are able to understand how they arrived at their research conclusions. To improve the objectivity of this study, I used the strategy of reflexivity by reflecting on my potential biases about reading interventions in a research journal that included the decisions that I made during the data collection and analysis process.

Ethical Procedures

Ethical procedures are important to establish during the development of the research study. Merriam (2009) noted the following 10 ethical procedures that researchers should consider during the development phase of a qualitative research study: (a) the purpose of the study, (b) promises and reciprocity, (c) risk assessment, (d) confidentiality, (e) informed consent, (f) data access and ownership, (g) mental health of participants, (h) advice about ethical matters related to this study, (i) data collection boundaries, and (j) ethical versus legal conduct. Following ethical procedures will not exempt the researcher from all ethical decisions that need to be made during the research study. Situational ethics can occur that are dependent on the ethics of the researcher (Merriam, 2009), and therefore, researchers need to reflect on those ethical procedures

that should be used to make ethical decisions, so that the purpose of the study remains true without compromising possible findings and participants.

To ensure that I followed ethical procedures for qualitative research, I first sought approval from the Institutional Review Board (IRB) at Walden University to conduct this study. The IRB verified that this study would be conducted using ethical procedures that ensure the beneficence, justice, and respect of the research study participants (09-17-15-0167036). The IRB requires informed consent of all individuals involved in the study. The IRB also requires that all research data that identifies participants remain confidential, which means that pseudonyms must be used for the participants, the school, the school district, and the state. The IRB also requires a detailed description of the proposed research study that includes who the participants will be, the potential risks and benefits to participants, and how the data will be collected, analyzed, and stored. I addressed these concerns in the IRB application, with the understanding that I would not be able to collect data until this application was approved.

Summary

This chapter included a description of the research method that I used for this study. I used a single case study design to describe how teachers use assessments and instruction during Tier 2 reading interventions (the case) for students in Grades 1-3 who were identified as at risk in reading. One public elementary school located in a western state was selected as the research site. Participants included three teachers in Grades 1-3 who provided Tier 2 instruction for students at risk in reading. Data were collected from

multiple sources, including teacher interviews, observations of Tier 2 instruction, and documents related to the RTI model implemented at this research site. Data for this single case were analyzed at two levels. At the first level, I used line-by-line coding and the constant comparative method to construct categorizes. I also used a content analysis to examine documents. At the second level, I determined emergent themes and discrepant data, which formed the key findings for this study. Threats to data quality and ethical considerations were also discussed in this chapter.

In Chapter 4, I present the results of the study, including a description of the research setting, the participants, the data collection procedures, and how I organized and managed the data. In addition, I describe the data analysis procedures that I used for the single case analysis. I also discuss the strategies that I used to increase the trustworthiness of this case study. Finally, I present the results of the study in relation to the central and related research questions.

Chapter 4: Results

The purpose of this study was to explore how teachers in Grades 1-3 used assessments and instruction in Tier 2 interventions for students who were identified at-risk in reading. To accomplish that purpose, I described the types of diagnostic assessments these teachers used to determine student placement and to inform their instruction in Tier 2 reading interventions. In addition, I described the scaffolding process that these teachers used to provide instruction for students in Tier 2 reading interventions and how they monitored student progress in Tier 2 reading interventions.

I developed the central and related research questions for this single case study from the conceptual framework and the literature review. The central research question was: How do teachers use assessments and instruction in Tier 2 interventions for students in Grades 1-3 who are identified as at risk for failure in reading? The related research questions were:

1. How do teachers use diagnostic assessments to determine student placement in Tier 2 reading interventions?
2. How do teachers use diagnostic assessments to inform their instruction in Tier 2 reading interventions?
3. How do teachers use the scaffolding process to provide instruction for students in Tier 2 reading interventions?
4. How do teachers monitor student progress in Tier 2 reading interventions?

In this chapter, I present the results of this study. I describe the setting of the study, the demographics of the research participants, and how the data were collected. In addition, I include a description of the data analysis procedures for my single case study. I also include a discussion of the evidence of trustworthiness as it relates to my qualitative investigation, and I analyze the results in relation to the central and related research questions.

Setting

The setting for this multiple case study was the Wooded Acres Elementary School District (pseudonym), which is located in a northern city with a population of 89,000 in a western U.S. state (United States Census Bureau, 2010). This public school district included four K-5 schools, two K-8 schools, one 6-8 school, and two K-8 charter schools. During the 2015-2016 school year, the district had 3, 678 students enrolled, of whom 66% received free or reduced lunches. The school district (2015-2016) had a diverse racial and ethnic student population, of which 67% were White or Caucasian, 14% were Hispanic or Latino American, 9% were Asian American, 5% were Black or African American, and 5% were undeclared. Approximately 11% of the student population received special education services. During 2014-2015, 10% of students were identified as English Second Language (ESL) learners. The Wooded Acres Elementary School District also met the accountability progress reporting requirements in reading and mathematics (School District Website, 2016).

The state in which the District is located required K-12 schools to implement statewide assessments in reading beginning in Grade 3. In 2014-2015, educators in the state changed the statewide assessment system from the *Standardized Testing and Reporting Program* (STAR) to the *State Assessment of Student Performance and Progress* (SAASPP), which was a computerized assessment (State Department of Education, 2017). Grade 3 students in Wooded Acres Elementary School District were required to complete the Smarter Balanced assessment for English language arts. This assessment was based on state's *Common Core State Standards* (CCSS) (State Department of Education, 2016).

One research site in the Wooded Acres Elementary School District was selected for this single case study. This research site was Mustang Elementary School (pseudonym), which enrolled 613 students in Grades K-8 during 2014-2015. The majority (62%) of the school's enrolled students participated in the free or reduced lunch program. The racial and ethnic demographics for Mustang Elementary School was 65% White or Caucasian, 13% Hispanic or Latino American, 6% Asian American, 2% Black or African American, 2% Native American, and 12% undeclared. Approximately 10% of the student population received special education services, and 8% of students were identified as ESL students.

During 2015-2016, Mustang Elementary School enrolled 64 students in three classrooms for Grade 1. Three Grade 2 classrooms and one Grade 2/3 classroom included 81 students. Two Grade 3 classrooms and one Grade 2/3 classroom included 73

students. The average class size for these three grades was 26 students (Mustang Elementary School principal, 2016).

The instructional reading program for students in Grades 1-3 was aligned to the state's CCSS. A statewide English language arts and reading curriculum titled *Treasures* was mandated for Tier 1 instruction for all students in Grades 1-3. During 2015-2016, teachers in the district implemented *Ready Reading*, a new English language arts and reading curriculum that was aligned with the state's CCSS. Therefore, teachers in the district used a combination of older and newer state-mandated curricula for Tier 1 instruction. Classroom teachers were also required by the district to use *i-Ready*, a reading and math computerized program that allowed them to determine student entry points for instruction as well as monitor student progress.

Teachers at the research site also used a variety of supplemental curricula materials for Tier 2 reading intervention instruction. They used *Systematic Instruction in Phonological Awareness* (SIPPS) to determine instructional levels for identified Tier 2 students. SIPPS was a Grade 1 and 2 curriculum that used a systematic approach to build fluency and comprehension skills. Teachers also used *Phonics for Reading* for Grades 1 and 2, which provided a systematic approach to building phonics and comprehension skills. In addition, teachers used the *Basic Phonic Skills Test* (BPST-IV) to determine where they should begin using the *Phonics for Reading* curriculum for these students. Teachers also used *Triumphs,* which was a comprehensive reading intervention program for students in Grades K-5. *Triumph*s was the intervention curriculum included with the

state-mandated curriculum, *Treasures,* to supplement other intervention programs with leveled reading books. In addition, teachers used *i-Ready* to provide individualized reading instruction for identified Tier 2 students. The curriculum *Rewards* was used to increase fluency and comprehension skills. Grade 3 teachers also used *Ready Reading* to teach reading comprehension skills to identified Tier 2 students. Classroom teachers also used *Raz-Kids,* which was an interactive computerized program that included leveled books and quizzes for identified Tier 2 students in Grades preK-5. Thus, the type of Tier 2 intervention instruction that primary teachers used at the research site depended on the instructional needs of their students.

In terms of progress monitoring in Grades 1-3, teachers at the research site assessed student reading performance four times a year, including at the beginning of the year to establish student reading levels and at the end of each trimester to determine student growth in reading skills. All students in Grade 1 were assessed for phonics skills, and those students who were reading were assessed for fluency skills. Students in Grade 2 were assessed for both phonics and fluency skills. Students in Grade 3 were assessed only for fluency skills. However, students in Grade 3 who had not demonstrated proficiency in reading were also assessed for their phonics skills. One assessment tool that teachers used was the *Basic Phonic Skills Test* (BPST)-IV, which was designed to assess student knowledge of the names and sounds of consonants and vowels. Teachers also used the BPST-IV to assess student knowledge of phonic patterns.

Teachers also used the *First 100 High Frequency Words* and the *AIMSweb* to assess reading fluency. Teachers also used *i-Ready* and observations of student reading performance in the classroom to determine reading levels, based on specific reading acquisition skills. They entered the scores from these measurements for each individual student on a spreadsheet that they used to determine tier placement and classroom instruction. Classroom teachers also attended grade-level meetings with the site literacy teacher and other teaching staff to determine how to meet the learning needs of each individual student. Grade-level teachers then placed students in reading groups based on their reading levels. This placement was often not with their classroom teacher. Reading groups met Monday through Thursday. Grade-level meetings regarding student placement and progress monitoring occurred bimonthly.

In December 2015, the Grade 1 teacher at the research site decided to suspend the instructional practice of placing students in the three Grade 1 classrooms in reading groups. Instead, they decided to provide small group instruction in their own classrooms during reading group time. They continued to send some Tier 2 students for added intervention instruction with the site literacy teacher. Teachers in Grade 2 and 3 continued to share the responsibility of placement and instruction for Tier 2 and Tier 3 intervention students. All teachers in Grades 1-3 continued to meet for grade level collaboration meetings.

Participant Demographics

At Mustang Elementary School, three teachers participated in this study, which included two classroom teachers and one site literacy teacher. These teachers were selected based on a criterion sampling logic because they expressed an interest in participating in this study and because they met the following inclusion criteria: (a) participants must be employed as a full-time teacher in Grades 1, 2, or 3 at the research site, (b) participants must be implementing Tier 2 reading interventions in their classrooms, and (c) participants must have taught two or more years in order to demonstrate some experience in implementing Tier 2 interventions. Therefore, according to these criteria, participants could be classroom teachers, reading specialists, Title I teachers, or special education teachers who implemented Tier 2 reading interventions at these grade levels.

The first participant, Lily (pseudonym), who was the site literacy coach for students in Grades 1-3, had earned an elementary teaching credential and a certificate in reading. Lily had taught for 21 years at Mustang Elementary School. As the site literacy coach, Lily provided Tier 2 instruction for students by increasing the intensity of instruction for students. Lily also provided Tier 3 instruction for students by providing individual instruction that targeted student skill deficits. In addition, Lily provided support and training for classroom teachers and instructional aides in Grades K-8 by coaching them in how to analyze data, determine the instructional needs of students, and provide effective small group instruction for these students.

The second participant, Grace (pseudonym), had taught for 2 years at Mustang Elementary School, including one year in Grade 4 and one year in Grade 2. Grace had earned a master's degree in education. At the time of this study, Grace provided Tier 1 reading instruction in her Grade 2 classroom by implementing differentiated instruction for all students. In addition, Grace implemented four Tier 2 reading interventions during small group reading instruction for students; two of these groups met with Grace, and two groups met with an instructional aide. Grace placed students into reading groups of five or six students based on their assessment scores. Each group met for 30 minutes Monday through Friday.

The third participant, Joan (pseudonym), had earned a bachelor's degree and a teaching credential for Grades K-8 with no specializations. Joan had taught for 19 years at Mustang Elementary School in Grades 4 and 5. However, this was Joan's first year teaching Grade 3 students. Joan provided Tier 1 instruction for all students in her classroom by differentiating instruction for all students. In addition, Joan provided Tier 2 intervention instruction for identified students as needed, either individually or in small groups.

Table 2 is a summary of the participant demographics.

Table 2

Summary of Participant Demographics

	Tier Level Instruction	Grade Level	Instruction	Degrees	Years of Teaching Experience
Lily	Tier 2 Tier 3	Grades 1-3	Small group One-on-one	Elementary licensure & reading certificate	21 years
Grace	Tier 1 Tier 2	Grade 2	Whole group Small group	Elementary licensure & MA in education	2 years
Joan	Tier 1 & 2	Grade 3	Small group embedded in whole group instruction	K-8 licensure	19 years

Data Collection

Data for this single case study were collected from multiple sources, including interviews with two classroom teachers and a site literacy coach who provided Tier 2 instruction for students in Grade 1-3 and observations of instructional lessons related to Tier 2 reading interventions. Documents related to the RTI model used at this site were also collected from the district and school web site and from teachers.

Interviews

I collected individual interview data about Tier 2 instruction and assessment from two classroom teachers and one site literacy coach at Mustang Elementary School. The first interview that I conducted took place with Grace on March 1, 2016 at 3:00 p.m. in

the Grade 2 common area of Mustang Elementary School, when students were not present. The second interview that I conducted was with Lily on March 10, 2016 at 3:00 p.m. in the literacy intervention classroom at Mustang Elementary School, when students were not present. The final interview that I conducted was with Joan on March 23, 2016 at 2:30 p.m. in a Grade 3 classroom when students were not present. Each interview lasted approximately 30 minutes, although the interview with the site literacy teacher was slightly longer because Lily supplied information about implementation of the RTI model for students in Grades 1-3 as opposed to just one grade.

Observations

I collected observation data from four instructional lessons in reading, which included three observations of Tier 2 intervention instruction and one observation of Tier 1 and 2 intervention instruction. The first observation that I conducted was a Tier 2 reading intervention for five students in Grade 2 on March 7, 2016 from 10:00 a.m. to 10:30 a.m. in Grace's classroom. The second observation that I conducted was a Tier 2 reading intervention for seven students in Grade 1 on April 5, 2016 from 8:30 a.m. to 9:00 a.m. in Lily's intervention classroom. The third observation that I conducted was of Tier 2 reading instruction for eight students in Grade 3 on April 5, 2016 from 9:15 a.m. to 10:00 a.m. in Lily's intervention classroom. The fourth observation was a Tier 1 and Tier 2 reading intervention for 23 students in Grade 3 that took place on May 17, 2016 from 9:15 a.m. to 10:00 a.m. in Joan's classroom. Thus, observation times ranged from 30 to 45 minutes, which was the length of an instructional reading lesson in each classroom.

Documents

I collected the following types of documents to support the interview and observation data that I collected for Tier 2 interventions at Mustang Elementary School: (1) state academic standards in reading for students in Grades 1-3, (2) district and school accountability plan in reading for students in Grades 1-3, (3) district and school report cards, (4) district and school reading assessment documents for students in Grades 1-3, and (5) classroom reading instruction and assessment documents for students in Grades 1-3. I collected these documents from the Wooded Acres Elementary School District website and Mustang Elementary School website in March and April 2016. I also collected documents from the California Education Department website in April and August of 2016. In addition, I collected documents from the principal and teaching staff at Mustang Elementary School from March to May and in August of 2016.

During this study, I experienced several challenges in collecting data. One challenge was to determine those individuals in this school district who would be able to give me current statistical data regarding student ethnicity, socioeconomic status, English language learners, or percentage of students receiving special education services. Another challenge that I faced during data collection was that teachers were not immediately responsive to my invitation to participate in this study, which I remedied by sending them repeated invitations. In addition, the coordination of observation times with teachers was a challenge because when I was available, teachers were often assessing students because I was collecting data at the end of the school year. Another

challenge was that some of the teachers who met the inclusion criteria to participate in this study believed that the site literacy coach was responsible for providing Tier 2 intervention instruction so they were reluctant to participate in this study. An additional challenge was that I was unable to find documents describing how reading interventions were implemented at Mustang Elementary School in relation to the RTI model.

Level 1 Data Analysis

Data analysis for this single case study was conducted at two levels. At the first level, I coded the interview and observation data transcripts using a line-by-line strategy that Charmaz (2006) recommended for qualitative research. I used a content analysis to examine the documents, which involved describing the purpose, content, and use of each document (Gall, Borg, & Borg, 2007). I also used the constant comparative method that Merriam (2009) recommended to construct categories from the coded data and the content analysis, and I presented summary tables for the interview, observation, and document data.

Analysis of Interview Data

Interview Question 1: *Please describe the response to intervention (RTI) model or process that you use at this school for students at-risk for reading failure*.

The three teachers who participated in this study described the RTI model that they used at Mustang Elementary School in relation to identifying students for small group interventions, implementing specific intervention curricula, and monitoring progress in these interventions. In terms of identifying students for small group

interventions, Grace, the Grade 2 teacher, and Lily, the site literacy coach, shared similar views about how student were placed into reading groups. Grace reported that teachers began the RTI model with an assessment of student phonics and fluency skills using the BPST-IV and *AIMSweb*. Grace also described the types of groups that the Grade 2 team had created for Tier 2 interventions,

> We have three reading groups in the second grade. We have a high group, grade level, and below grade level. Currently the grade level group is not at grade level so a lot of our kids are at-risk right now. Our kids that are most at-risk go to reading intervention, so they get a double dose as they go to reading intervention[s] with our site literacy [teacher] and they do small group reading intervention[s] with us.

Lily also described how teachers identified students by examining student performance data and previous instructional efforts,

> We start with data and teacher input. Then we look at the data to see how long they have been at that level and what other methods and modes the teacher has tried in the classroom. Then we meet and have student study teams, where we get together and decide what needs to be done and place them in intervention[s] or if we feel that enough leveling has been done [such as] remediation within the classroom and maybe some interventions have been used but they are still pretty low, then we move forward with testing for [the] resource specialist.

As did Grace, Lily also described assessing students at the beginning of each trimester,

> We basically do trimester testing three times a year. We look at that and the beginning of the year as well as each trimester so that is kind [of] how we start to see who is below our benchmarks and [to] build our groups.

Joan, the Grade 3 teacher, also explained how students were identified who had not shown adequate progress in Tier 2 and Tier 3. Joan stated that these students were referred for diagnostic testing and instruction that were provided by the reading specialist teacher or special education teacher. Some of the referred students were assigned an individual education program (IEP), which was a written document developed, reviewed, and revised for individual students with a recognized disability (IDEA, 2004).

As part of their description of the RTI model, all three teachers also described the types of Tier 2 curricula they used with their leveled reading groups. Lily, the site literacy coach, reported using the *Systematic Instruction in Phonological Awareness* (SIPPS) program for students in Grade 1. Lily added that "we will do the pre-test for SIPPS and get two groups from that, and we go through the intervention with them." Grace used *Phonics for Reading*, which included lessons on phonics and reading comprehension. Grace added,

> [*Phonics for Reading*] builds on the BPST-IV tier, so we assess where the phonics needs are and start with those lessons. We read leveled readers and decodable readers that also match the sounds of the *Phonics for Reading* lessons, so everything is tied to those decoding skills.

Joan reported that Tier 2 students in Grade 3 were placed into two different groups; one group focused on phonics and the other group focused on reading comprehension skills. Joan also described the intensive support that Tier 2 and Tier 3 students received in her Grade 3 classroom, adding that "sometimes I have extra teachers in here helping or extra help working with them helping to understand what the question is even asking, [and going] a little more in-depth talking about the story."

As part of the RTI model, two of the three teachers described how progress monitoring occurred. Lily, the site literacy coach, stated that progress monitoring took place every other week. Lily added, "We do progress monitoring for each of our groups and see if there has been growth." Grace, the Grade 2 teacher, reported that "each trimester we assess and then go back to where we start again." Joan, the Grade 3 teacher, did not include progress monitoring as part of her description of the RTI process.

Thus, teachers believed that the RTI model that they used at Mustang Elementary School included three major components. The first component was assessment of student reading abilities in order to group students based on their individual learning needs. Teachers used the BPST-IV to assess phonics skills and the *AIMSweb* to assess fluency skills. The second component of the RTI model that teachers described was the curriculum that they used to teach Tier 2 interventions. The third component was the progress monitoring that they conducted every week.

Interview Question 2: *Please describe the reading curriculum that you use in your classroom for all students.*

Teachers reported using similar reading curricula materials for all students. Lily, the site literacy coach, stated,

> *Treasures* is our school based language arts program [that has] an intervention program called *Triumphs* [that] we will sometimes use. We use the *Triumphs* books to reinforce the sounds. If we are doing [the] ea [phoneme], then I will find a story that matches up [to] what we are doing.

Joan, the Grade 3 teacher, reported using *Ready Reading* with all students, which was a new curriculum that included nonfiction passages due to a new emphasis in the common core state standards on informational text. Grace, the Grade 1 teacher, reported using *i-Ready* to conduct diagnostic testing for all students, and *Accelerated Reader*, which allowed all students to choose books based on their independent reading level and answer five multiple-choice questions to determine their reading comprehension. Grace also reported using reading passages based on current events from various forms of printed, such as regular curriculum, library books or internet sources.

As the site literacy coach, Lily also described other types of supplemental curriculum materials that teachers used for Tier 2 intervention instruction, including SIPPS and *Phonics for Reading* for Grades 1 and 2. Lily also used *Rewards* and *Ready Reading* to teach comprehension skills and *Raz-Kids* to teach reading fluency to Grade 3 students in the advanced reading groups. However, all teachers agreed that the older state-mandated *Treasures* and the newer state-mandated *Ready Reading* district-adopted

curricula were the core reading curriculum materials that they used for students in Grades 1-3.

Thus, the teachers used *Treasures, Ready Reading, i-Ready, Accelerated Reader,* and *Triumphs* curricula to teach language arts skills to students in Grades 1-3. The Grade 1 and Grade 2 teachers also used *Phonics for Reading* and SIPPS to teach language arts skills. In addition, the site literacy coach used *Rewards* to teach language arts skills to Grade 3 students.

Interview Question 3: *How do you determine student placement in Tier 1 and Tier 2 reading interventions in your classroom?*

The three teachers reported that they determined student placement for Tier 1 and Tier 2 interventions by analyzing student performance data in reading. Grace described the process that she used for Grade 2 students,

> [We] determine placement based on BPST-IV scores, accuracy, and fluency. Sometimes we look at student reading levels to see where they are at and what they need the most help on. [Then we] group them on similarities, so that our higher group, for example, focuses on reading comprehension because they have the decoding skills necessary to read fluently. The lower groups focus on phonics, decoding, and continuously reading to build up to that accuracy and fluency while still doing comprehension.

Lily, the site literacy coach, stated that teachers used BPST-IV data to group Grade 1 students. Joan, the Grade 3 teacher, described using fluency testing, *i-Ready* scores, class

performance, and teacher observations of student performance in class to group students. Joan also used previous report card grades in reading to group students.

Thus, teachers described using different types of student performance data in reading to determine student placement in Tier 1 and Tier 2 reading interventions. For Grade 1 students, Lily reported that teachers used BPST-IV scores to determine intervention placement. For Grade 2 students, Grace reported that teachers used BPST-IV scores, reading accuracy, and reading fluency to determine intervention placement. For Grade 3 students, Joan reported that teachers used fluency and *i-Ready* scores to determine intervention placement. All teachers reported using observations of reading performance in the classroom and student grades in reading to determine intervention placement.

Interview Question 4: *How do you use diagnostic assessments and progress monitoring data to inform your instruction in Tier 2 reading interventions?*

The three teachers reported using similar diagnostic assessments and progress monitoring data to inform instruction. Lily, the site literacy coach, used teacher observations and student performances in the classroom to monitor student progress in Tier 2 interventions. Lily stated,

> We do our progress monitoring [to see] should we jump ahead or do we need [to] go back and review things. A lot of it is just honestly watching the kids every single day with what you are doing. *Phonics for Reading* has the two

> lessons that are similar, so if they are doing great, we skip the next one, but most of the time that is not the case.

Grace, the Grade 2 teacher, also reported that she used student performance on classroom assignments to monitor student progress and to inform Tier 2 instruction. In addition, Grace used *i-Ready* data and trimester assessments to monitor student progress in reading. Grace stated,

> I have done diagnostic [testing] with *i-Ready*, and *Phonics for Reading* [also] has a beginning assessment and an end assessment to see what skills students are grasping. We also use the BPST-IV and *AIMSweb*. We baseline [the] data at the beginning of the year, and we do it every trimester. Based on those BPST-IV scores, where they start to mess up or where are they starting to miss, that is the phonics [lesson] that we start with.

Grace also reported that she used teacher observations of students' reading performance in class to determine Tier 2 instruction. Grace added that

> We look at the individual kids, and we also look to see if the kids are going to fit together based on the way that they work. What do they really need? Does the test actual show a good picture of where this kid is really at? Or was it a bad day, because you know the tests are so short; it's a minute of one day of a kid's life.

Grace also described assessing the reading skills of these newly formed groups to ensure accurate student placement, noting that the assessment of student progress may be

different than the reality of student progress. Joan, the Grade 3 teacher, stated that she reviewed assessment and student performance data in reading and grouped students based on that data.

Thus, the three teachers used progress monitoring data to inform Tier 2 instruction, including student reading performance in the classroom, teacher observations of student reading performance in the classroom, and trimester reading assessments related to phonological awareness and reading fluency. Grace also reported that she used *i-Ready* diagnostic data to inform Tier 2 instruction.

Interview Question 5: *What types of curricular materials do you use in Tier 2 interventions?*

The three teachers reported using similar supplemental curricular materials in Tier 2 interventions. Grace, the Grade 2 teacher, stated that she used *Phonics for Reading* and *Treasures* leveled readers that aligned with the same sounds that students were learning. Grace also stated that she used decodable readers to teach fluency and decoding skills. Joan, the Grade 3 teacher, stated that she used the same curricular materials that the site literacy teacher used, such as *Ready Reading* and *Triumphs* books. Lily, the site literacy teacher, noted that she used SIPPS, *Phonics for Reading*, *Ready Reading*, *Rewards*, *Triumphs* leveled books, *Raz-Kids*, and *Treasures* to provide Tier 2 intervention instruction for students in Grades 1-3. Lily reported that she selected the curricula that best met the individual learning needs of students, which often changed throughout the school year.

Interview Question 6: *How do you provide instruction for students in Tier 2 reading interventions?*

The three teachers reported that they provided instruction for students in Tier 2 reading interventions differently. Lily, the site literacy coach, who provided Tier 2 intervention instruction for students in Grades 1-3, reported that she provided instruction for students in Tier 2 reading interventions through a pull-out program that included collaborating with other teachers about Tier 1 and Tier 2 instruction. Collaboration usually involved all teachers from one grade level, the site literacy coach, and the reading specialist or special education teacher. In addition, collaboration usually included professional development activities and conversations related to student achievement.

Grace, who taught students in Grade 2, described using several different strategies to provide instruction for students in Tier 2 interventions. The first strategy that Grace described was scaffolding the assignment, which might include providing sentence frames or reducing the number of questions in the assignment. The second strategy that Grace described was differentiating student homework and reading goals to keep students moving forward to improve their reading achievement. The third strategy that Grace described was pairing skilled readers with unskilled readers. Grace noted that she assigned "a buddy for someone to work with. A lot of times I have students that really want to read to my at-risk kids and that really keeps them engaged and focused." The fourth strategy that Grace mentioned was ability grouping,

> Sometimes it's just me one-on-one with a few of my kids, because they really need that guidance. The one benefit that reading groups really gives us is being able to work with the smaller group, because when you have 27 kids, and you [have] X amount of at-risk students, you cannot get to them all the time.

Grace adjusted the type of instructional strategy to fit student learning needs.

Joan, the Grade 3 teacher, also described using the strategy of small group instruction to work with students who received Tier 2 interventions from either the site literacy teacher or the reading specialist. Joan stated that she worked with at-risk students in smaller groups to read test questions to them and to help them answer questions on tests or worksheets.

Thus, the literacy site coach provided Tier 2 interventions through a pull-out program that involved grade-level collaboration with Grade 1-3 teachers about Tier 1 and Tier 2 instruction. The Grade 2 and Grade 3 teachers reported using different instructional strategies to provide these interventions in the classroom, including scaffolding assignments, using sentence frames to summarize reading passages, differentiating student learning tasks, pairing skilled readers with unskilled readers, grouping students by ability in reading, and small group instruction.

Interview Question 7: *Please describe some specific strategies that you use to scaffold instruction during Tier 2 interventions.*

The three teachers described using many different strategies to scaffold instruction during Tier 2 interventions. Lily, the site literacy coach, reported that she

often used repetition by "reading directions over and over" to scaffold instruction during these interventions. Lily also noted that she used questioning to check students' understanding of the assignments. Lily gave some examples of these types of questions: "What does the word 'describe' mean? What does this word 'underline' mean as opposed to what [does] 'circling' mean?" Lily also reported that she used the scaffolding strategy of reviewing to ensure that students understood how to accomplish the next task. Lily also reported using the strategy of recall to scaffold Tier 2 instruction. Lily described this strategy as "going back, redoing, and remember what [or how] we did [the task]." Lily also used the scaffolding strategy of metacognition, which she described as follows,

> If we are reading something, I will say, 'Oh I came across this word, and I am not sure what is means, so in my mind I am guessing it means [this], but I am going to read the sentence and I am going to see if that makes sense by using the words around it—just thinking aloud for them.

Lily also reported using the strategy of breaking down the assignment into manageable parts, which often involved beginning the lesson at the point where students do not understand the assignment. Lily added that she often asked students to finish one part of an assignment before moving on to another part of the assignment. Lily also stated that she used the scaffolding strategy of highlighting letters, words, or parts of text. For example, Lily reported that she asked Grade 2 students to highlight and say the "ea" phoneme of words within a reading passage. Lily believed that this highlighting of

phonemes creates automaticity for letter recognition and the corresponding sounds of the "ea" phoneme. Lily also reported that she asked Grade 1 students to highlight words in a reading passage and then write a summary of this passage using the highlighted words. Lily also reported using small group instruction for students who did not comprehend the content and skills related to a reading lesson. Lily also reported using the strategy of parental support to scaffold Tier 2 instruction. Lily added that some parents became involved in teaching their children at their homes, noting that teachers directed parents in providing supplemental reading instruction at home and this gave other students the opportunity to receive Tier 2 instruction. Lily believed that parental support at home improved reading achievement for students.

Grace, the Grade 2 teacher, described several scaffolding strategies that she used during Tier 2 interventions. Grace used repetition to scaffold instruction, stating that "I think adults find repetition slightly monotonous, but for struggling readers and for young kids, repetition is golden." Grace also reported that she used highlighting as an instructional strategy to improve reading comprehension skills, which she described as emphasizing evidence that the answer to a question can be found within the text. Grace also reported that she used proximity to scaffold instruction, which she described as seating particular students close to the teacher for better participation in the lesson. Grace also reported that she used ability grouping and differentiating instruction to scaffold instruction, which Grace described as follows,

> We do three different groups within second grade. I have four groups of children [in my group] and they do not always do the same lesson. [The] higher kids are going to do more reading comprehension, and my kids that are still working on those decoding skills are going to spend more time decoding and reading.

Grace noted that she used data and in-class observations of students to determine student ability groups and to determine differentiated assignments. Grace reported that she provided instruction based on individual student learning needs, which usually occurred during small group instruction. Grace also reported that she used consistency of instruction to scaffolding instruction, which meant providing specific routines for daily reading instruction. Grace, the Grade 2 teacher, also used the strategy of creating a safe place for students to learn. Grace added,

> We make it a safe place. We make mistakes. We learn together. It's okay to question things, [because] everybody sounds out words. I help but try not to have them help to make that safe, if that makes sense?

Grace believed that creating a safe learning environment involved allowing students to ask for help to complete a task and to learn from their mistakes without fear of criticism from the teacher or other students. Grace also added that she used the instructional strategy of establishing student reading goals to scaffold instruction during Tier 2 instruction, which included the incentive of a field trip at the end of each trimester. In addition, Grace used the strategy of engagement in the lesson to scaffold Tier 2

instruction. Grace described this strategy as providing instruction that motivates students to participate in the lesson, so that students are not overwhelmed by the difficulty of the lesson. Grace stated,

> My kids get the most excited about reading about Johnny Appleseed and Martin Luther King and Abraham Lincoln and George Washington verses when we take out certain text books. There is a lack of excitement there, but when it is history based or a current event—they loved reading about leap year and why we have leap year.

Grace believed that choosing instructional materials that are relevant to students improves student motivation and engagement in the lesson.

Joan, the Grade 3 teacher, reported that she used the strategy of peer teaching to scaffold instruction. Joan added,

> So with this particular group sometimes I will even do peer teaching, [or] peer[s] working together so I have the higher group work with the lower [group]. I have tried different groups, and the higher group worked the best because of the modeling that goes on.

Joan added that she usually has the same lower groups of students work with the same higher groups of students for both reading and mathematics instruction. Joan also used the strategy of peer modeling to scaffold instruction, which is different from peer teaching in that students observe other students reading aloud, looking for answers within a passage, or summarizing a passage, but they do not receive direct teaching from these

students. In addition, Joan reported that she used ability grouping to scaffold Tier 2 instruction, which she described as assigning students to four different ability groups, based on their reading levels.

Thus, all three teachers stated that they used a variety of instructional strategies to scaffold instruction for Tier 2 interventions in order to address individual reading levels for students. These strategies included (a) repetition, (b) using questions to check for understanding, (c) reviewing past assignments, (d) emphasizing recall of information to improve comprehension, (e) metacognition, (f) breaking assignments into manageable parts, (g) highlighting parts of the text, (h) writing a summary, (i) ability grouping, (j) seeking parental support for reading instruction, (k) preferential or proximity seating, (l) differentiating instruction, (m) establishing consistent routines for instruction, (n) creating a safe place to learn, (o) using teacher-established reading goals, (p) encouraging student engagement in the lesson, (q) peer teaching, and (r) peer modeling. The most frequently cited strategies were ability grouping, highlighting parts of the text, and repetition.

Interview Question 8: *How do you monitor student progress in Tier 2 reading interventions?*

The three teachers described using a variety of strategies to monitor student progress in Tier 2 reading interventions. Lily, the site literacy coach, assessed student understanding of sight words and reading fluency in order to monitor reading progress in Grade 1. Lily added,

> With our first graders, we are starting with fluency now, but prior to this, we were doing the sight words. There [are] all the sounds and blends and segmenting blending and all of those tests that you can do along the way. Now that they are decoding better, we are going to start our higher first grade groups on fluency passages.

Lily added that when she begins teaching fluency passages, she also begins to monitor reading fluency.

Grace reported that she used student classroom observations and different types of assessment data to monitor student reading performance in Grade 2. In relation to assessment data, Grace reported that she used classroom assignments and feedback from parents to monitor student progress in reading. She added, "I have my students take [the *Phonics for Reading* packets] home and read them to their parents and then they sign them and bring them back." In relation to observations of student reading performance, Grace asked, "Are they getting the words that we have been practicing decoding? Are they getting the challenge words that they have practiced and practiced while they are reading verses doing packet work?" Grace also monitored student progress by noting the types of questions that students asked about their learning tasks and through comments that students made regarding tasks that they completed in Tier 1 and Tier 2 interventions. Grace also monitored their self-confidence in learning to read, as evidenced by their enthusiasm in wanting to learn how to read. In addition, Grace monitored their individual reading levels for progress by examining baseline reading performance data.

Joan reported that she monitored student progress in Grade 3 by using the *i-Ready* diagnostic assessment scores that students took twice a year. In addition, Joan noted

> I am always checking *Treasures*. They have the story test at the end [of the story that] I give on a week-to-week basis, and we do some of the worksheets that go [along] with *Treasures* and some of the work[sheets] that go along with *Ready Reading*. If they are completely off, then I realize that they didn't get it.

Joan added that she monitored all students for progress in reading comprehension and reading fluency. Joan also noted that the site literacy teacher conducted progress monitoring of Tier 2 interventions for students in Grade 3, adding that fluency assessments were done weekly.

Thus, the three teachers reported that they used a variety of strategies to monitor student progress in reading. These strategies included using teacher observations of reading performance in the classroom and assessment data related to reading fluency and phonological awareness. These strategies also included examining classroom assignments, monitoring student reading levels, and using parental feedback about homework assignments. In addition, these strategies included reviewing student comments about their learning during Tier 1 instruction about Tier 2 instruction and *i-Ready* diagnostic testing results. These strategies also included examining the results of *Treasure* and *Ready Reading* tests, building student self-confidence about reading, and listening to student questions about reading assignments to determine their comprehension levels.

Interview Question 9: *What are some of the challenges that you face in providing Tier 1 and Tier 2 reading interventions for students at-risk for failure in reading?*

The three teachers described several challenges that they believed they faced in providing Tier 1 and Tier 2 reading interventions to students in Grades 1-3 at Mustang Elementary School. The first challenge that Grace described was meeting the reading needs of a diverse student population. Grace added that this challenge involved "scaffolding to meet the needs of your highest and lowest children. I think I find [that] to be one of the most challenging tasks at hand." The second challenge that Grace reported was a lack of time to provide individualized instruction for these students. For one hour each day, Grace reported that an aide helped her to individualize instruction by teaching a small group during Tier 2 interventions, which helped Grace to address this challenge. The third challenge that Grace described was presenting instructional lessons that were engaging and rigorous for all students. Grace added,

> It's challenging to keep a lesson engaging and rigorous enough that your higher students are working, but to also to scaffold in a way that gives access to your [English Learners] (ELs) or your at-risk or just your struggling readers.

The fourth challenge that Grace described was the lack of parental support for reading, stating that "It is hard for what I do all day to be reinforced, if no one is at home doing it." A fifth challenge that Grace added was providing instruction that treated all students equally, so that they did not feel any more or less capable of completing their

assignments than their classmates. Grace noted that some students at this age begin to feel that they are inadequate in reading.

Lily, the literacy site coach, also described several challenges that she believed she faced in providing Tier 2 reading interventions to students in Grades 1-3. The first challenge was that students may not be ready to learn, which means that students may not have the skills to learn effectively. The second challenge that Lily believed she faced in providing Tier 2 instruction was negative student attitudes, because some students did not want to learn how to read. Lily also believed that students' lack of attention during instruction was another challenge that she faced in providing reading interventions. Lily added,

> They have to learn how to pay attention and point and how to follow along. That is truly the biggest thing. I told my third graders today that they are a tough group, and it's not that they can't do it, it's because either they don't want to or their attention spans are just—they cannot stay focused.

Lily believed that students can learn how to read if they learn to build stamina by reading the whole story in one sitting. The third challenge that Lily described was problems related to student vision. Lily added, "I have had a couple of students whose parents have followed through and have actually gotten glasses—honestly that was really a big part of the problem." The fourth challenge that Lily reported was that choosing the right instruction presentation can be a challenge because computerized instruction is not always the best choice to use for intervention instruction. Lily stated that after she and

her aide used a computerized comprehension program to instruct their Tier 2 intervention groups two a week for a couple of weeks students stopped thinking and became passive. Lily reported that she went back to reading the passages together and highlighting important aspects of the text. Lily also stated that when a group of students do not progress by using a specific intervention curriculum, she will adjust or change the curriculum to better meet student learning needs for that group.

Joan also described several challenges that she faced in providing Tier 2 reading interventions for students in her Grade 3 classroom. Joan believed that she did not having enough time or enough resources to give to at-risk students, because the number of these students was high. Joan stated, "I have seven [students] that are pulled out so that is a pretty big number out of 36." Joan added that these at-risk students often participated in intervention groups led by the site literacy teacher or reading specialist teacher.

Thus, these three teachers described several challenges that they believed impacted their reading intervention challenges. These challenges included meeting the individual learning needs of all students and presenting instruction that is rigorous and engaging. The challenges also included teaching students who lack learning skills and negative student attitudes towards learning how to read. In addition, these challenges included providing equitable instruction, time to teach at-risk students, and resources to teach at-risk students.

Table 3

Summary of Categories Constructed from Interview Data Analysis

Interview Questions	*Categories*
IQ1: RTI process	Identifying students for small group interventions
	Implementing specific intervention curricula
	Monitoring individual student progress
IQ2: Reading curriculum for all students	Using *Treasures* as older state-mandated curriculum
	Using *Ready Reading* as newer state-mandated curriculum
	Using *i-Ready* for diagnostic testing in Grades 1-3
	Using *Accelerated Reader* for independent reading in K-5
	Using *Phonics for Reading* for Tier 2 instruction in Grades 1-2
	Using *Triumphs* for Tier 2 instruction in Grades 1-3
	Using *Rewards* for Tier 2 instruction in Grade 3
	Using SIPPS for Tier 2 instruction in Grades 1-2
IQ3: Student placement	Using PBST-IV scores in Grade 1
	Using PBST-IV, fluency, and accuracy scores in Grade 2
	Using fluency and *i-Ready* scores
	Using teacher observations in Grades 1-3
IQ4: Diagnostic assessments & progress monitoring	Examining student performance on classroom assignments
	Observing student reading performance in class
	Reviewing trimester reading assessments
	Using *Phonics for Reading* assessment data in Grades 1 and 2
	Using *i-Ready* diagnostic data in Grades 1-3
IQ5:Tier 2 curricular materials	Using *Phonics for Reading* in Grade 1 and 2
	Using *Treasures* leveled books in Grades 1-3
	Using decodable readers in Grades 1-3
	Using *Ready Reading* in Grade 3
	Using *Triumphs* leveled books in Grades 1-3

	Using SIPPS in Grades 1 and 2
	Using *Phonics for Reading* in Grades 1 and 2
	Using *Rewards* in Grade 3
	Using *Raz-Kids* in Grade 3
IQ6: Tier 2 instruction	Using collaborative pull-out program design for all grades
	Using scaffolding in Grades 1-3
	Differentiating student learning tasks in Grades 1-3
	Pairing skilled readers with unskilled readers in Grades 2 & 3
	Grouping students by reading ability in Grades 1-3
	Using small group instruction in Grades 1-3
IQ7: Scaffolding instruction	Using repetition
	Using questioning to check for understanding
	Using review of past assignments
	Using recall to improve reading comprehension
	Using metacognition
	Breaking assignments into smaller tasks
	Using highlighting of words and letters
	Writing a summary of reading passages
	Using ability grouping
	Seeking parental support for reading instruction
	Using proximity seating to engage students
	Differentiating instruction in small groups
	Presenting consistent instructional routines
	Creating a safe place to learn
	Using teacher-established reading goals
	Engaging students in learning tasks
	Using peers to model reading tasks
IQ8: Monitoring student progress	Examining classroom assignments
	Using parental feedback on homework assignments
	Observing reading performance in class
	Grading *Treasure* and *Ready Reading* tests

	Assessing recognition of sight words
	Assessing segmented blending skills
	Assessing decoding skills
	Assessing reading fluency
	Listening to student questions
	Monitoring reading levels
	Using student feedback from Tier 1 assignments
	Building student self-confidence in reading
	Examining *i-Ready* diagnostic data
IQ9: Intervention challenges	Scaffolding instruction for range of student reading abilities
	Noting lack of time to teach at-risk students
	Keeping lessons engaging and rigorous
	Noting lack of parental support for reading
	Providing equitable instruction
	Noting students lack learning skills
	Noting negative student attitudes about learning to read
	Noting that students have vision problems
	Choosing appropriate instructional strategies
	Noting lack of resources to teach at-risk students

Analysis of Observation Data

For this study, I conducted a total of four observations of Tier 2 reading interventions for students in Grades 1-3 at Mustang Elementary School. I conducted two observations of Lily, the site literacy coach, because she provided Tier 2 intervention instruction for students in Grades 1-3 as a support for classroom instruction. An analysis of this observation data was based on the following criteria that Merriam (2009) recommended and that I adapted for this study: (a) intervention setting, (b) intervention participants, (c) intervention lesson, (d) scaffolding teacher-student interactions, (e)

student engagement, and (f) researcher behavior. Each criterion is analyzed in relation to specific sub-criteria that are identified in the following paragraphs.

Intervention setting. This criterion included the use of instructional space, print and non-print resources, and technology observed in the intervention setting.

In terms of instructional space, one teacher provided Tier 1 instruction in a whole group setting, and two other teachers provided Tier 2 instruction in small group settings. Grace's Grade 2 classroom space was arranged so that two interventions could be conducted simultaneously in small groups. A paraprofessional provided Tier 2 instruction for five students at a horseshoe table, and Grace, the Grade 2 teacher, provided Tier 2 instruction for five students at a rectangle table. In the intervention classroom, Lily provided Tier 2 small group instruction for eighth students at a rectangle table, and a paraprofessional provided Tier 2 small group instruction for five students at a horseshoe table. In Joan's Grade 3 classroom, student desks were arranged in a horseshoe shape for whole group instruction with 23 students.

In relation to print and non-print resources, classrooms included multiple resources for reading. Grace's Grade 2 classroom included leveled books for students to read independently and for small group instruction. Grace's classroom also featured posters encouraging students to read and a bulletin board of grade level words. Lily's intervention classroom included leveled books and a pocket display that held individual reading words for instruction as well as posters related to reading instruction. Joan's

Grade 3 classroom included leveled books for independent reading and a wall of Grade 3 words as well as instructional reading posters.

Concerning technology resources, two lessons included technology, and two lessons did not include technology. Lily, the site literacy coach, used a smart board to project a computer-scanned lesson in the intervention classroom. Lily also provided chrome books for student use during Tier 2 instruction. Joan, the Grade 3 teacher, used a hand-held device that allowed her to write words that appeared on the interactive board mounted at the front of the classroom. In Joan's Grade 3 classroom, a few computers were located in the back of the classroom with a set of chrome books that were shared between Grade 3 classrooms. Grace's Grade 2 classroom had an interactive board mounted to the wall and a set of classroom chrome books that were shared between Grade 2 classrooms. All three teachers had an Elmo document camera and a computer in their classrooms for instructional use.

Intervention participants. This criterion included how many students were present for this intervention lesson, how many adults were present for this intervention lesson, and student gender balance.

In terms of adults, one or two adults were present during every instructional observation. The adults included classroom teachers, a site literacy coach, and paraprofessionals. Three out of four intervention lessons included one teacher, and one intervention lesson included one classroom teacher and one paraprofessional. In terms of the number of students present for the observed intervention lessons, in Grace's Grade 2

classroom and Lily's intervention classroom, this number ranged from five to eight students in order to provide small group instruction. However, in Joan's Grade 3 classroom, the group included 23 students who received Tier 1 whole group instruction. In terms of gender balance, Grace's Grade 2 small group consisted of two female students and three male students. In the intervention classroom, Lily's first lesson for Grade 1 students included four female students and three male students, and Lily's second lesson for Grade 3 students included three female students and five male students. The whole group lesson that Joan, the Grade 3 teacher, taught included 13 female students and 11 male students. Thus, gender in all observed lessons was somewhat balanced.

Intervention lessons. The sub-criteria for this criterion included (a) the objective, (b) data, modeling, and checking for understanding, (c) guided practice, and (d) independent practice.

The first intervention lesson that I observed was Tier 2 reading instruction that Grade provided for five students in her classroom. The objectives of the lesson were to be able to recognize the vowel diagraph "oo" and highlight the vowel sound within words. Another objective of Grace's lesson was to recall prefixes and suffixes of base words. Grace modeled how to write the word "moon" and the sound of the vowel phoneme or "oo" sound. Grace also checked for student understanding by asking students to find the written "oo" phoneme in the word "moon." Grace also reviewed the rules for writing complete sentences and clarified definitions of base words. In addition,

Grace modeled word syllables and sounds. Grace included guided practice by asking students to write a sentence that contained the word "moon." Grace reviewed student sentences as they finished and gave them feedback. Grace then instructed students to highlight the "oo" sound of the word. Grace also instructed students to use their finger to find and say specific words. In addition, students read and reread sentences to find words that contained the "oo" sound. Grace also instructed students to sound out each letter of the word and to reread the word together. Grace used guided practice by asking students to separate vowel sounds from consonants. Grace included independent practice by asking students to independently write sentences that contained the word "moon" and highlight the "oo" phoneme. Grace also instructed students to independently find and highlight the "oo" phoneme in the next five words, which was part of their worksheet assignment. Grace reminded students about the meaning of a base word and asked students to present their definition of a base word, such as unlock or distrust. In addition, Grace asked students to independently find and highlight words that contained prefixes and suffixes.

The second intervention lesson that I observed was Tier 2 reading instruction that Lily, the site literacy coach, provided for seven Grade 1 students in the intervention classroom. The objectives of the lesson were to introduce the ending phoneme sounds of "mp" and "tch" and to name rhyming words of "mp" and "tch" ending phonemes. Another objective was to help students recognize the "mp" and "tch" phonemes in written words. Lily first reviewed the "tch" phoneme by writing different words on the

whiteboard that ended with the “tch” phoneme. Lily used different colors to represent the constant and vowel sounds. Lily also introduced the “mp” phoneme and asked students to name words that ended with the “mp” sound. Lily wrote these “mp” words on the whiteboard using different colors for vowels and constants. In addition, Lily used guided practice by asking students to practice sounding out words using hand-arm motions, which students placed their right hand at their left shoulder and moved down their left arm for each phoneme. Students then repeated the word with a sliding motion from the top of their left shoulder with their right hand to their wrist to indicate a blend of the phoneme sounds that were previously segmented. Lily also used guided practice by reviewing sound segments and creating new sound segments and words. Lily asked students to say the word lamp, but drop the “mp” sound of the word. She then asked students, “What do you hear?” Lily also asked students to create new words by changing the vowel sound, and to sound out the word using the hand-arm motions. They also discussed the similarities and differences of words that ended with the “mp” phoneme. Lily used independent practice by asking students to create and write words with the “mp” sound on the whiteboard, using different colors for the vowel letters. Students also took turns orally reading sight words written on flashcards. Students independently read wall words that were on flashcards in the pocket chart mounted on the wall. In addition, Lily gave students a reinforcement worksheet to complete at home. Students received a sticker if they returned the worksheet completed with a parent signature.

The third intervention lesson that I observed was Tier 2 reading instruction that Lily provided for eight Grade 3 students in her classroom. The objectives of this lesson were to master specific reading comprehension strategies and to retell the story in chronological order. Students reviewed a past lesson about recounting the story in chronological order and what the story meant. Lily also read a true story to help students understand how to present a story in chronological order. Lily modeled how to highlight significant details of the story to improve comprehension. In addition, Lily asked who, why, what, where, and how questions during the review of the story. Lily also reinforced students' correct actions with positive comments. Lily used guided practice by asking students to listen for key words or thoughts as she and students reread parts of the story. Lily used student responses to comprehension questions to prompt discussion about the correct answer. Students were given the opportunity to ask another student for assistance in answering these questions. A Grade 3 student retold the story in chronological order, while other students verified that the order of the story was correct. Lily directed students to highlight a single vocabulary word and to find and highlight a word that had a similar meaning within the same story. Students then drew a line from the vocabulary to the similar word. Lily asked students to read the story silently and to find other vocabulary words and words with similar meaning. Lily asked students to complete the last section of the worksheet independently, which consisted of answering comprehension questions.

The fourth intervention lesson that I observed was Tier 1 reading instruction that Joan provided for 23 Grade 3 students in her classroom. The objectives of the lesson were to learn about events that happened then and now in the local area and to make a prewriting list of those events. Another objective was to write a story using the prewriting list. Joan also modeled the development of a pre-writing chart. Joan checked for student understanding by asking students to use hand signals, such as silent clapping and thumbs up. Joan also modeled how to write a story, which included (a) use of paragraph indention, (b) use of space on lined paper, (c) use of correct sentence punctuation, (d) use of complete sentences, (e) use of a "brainstorming" list of ideas to compare events from then and now, (f) writing about then items followed by now items, (g) use of a topic sentence, (h) where to place the title of the story, and (i) use of legible handwriting. Joan instructed students to write their stories using her modeled sentences to write their paragraphs or developing their own sentences from the prewriting list that remained posted on the interactive board. Joan used guided practice by reminding the writing topics and the form of paragraphs. Joan also checked on student understanding of the assignment and on student engagement in the task. Joan asked individual students to correct their use of space on lined paper, punctuation, line spacing, and spelling as they wrote. In addition, Joan used self-sticking paper with lines to model paragraph writing. Joan also moved this paper to other parts of the room so that students could refer to this example to finish their writing later. Joan gave students an opportunity to work independently to write their own paragraphs using the pre-writing chart. Joan also gave

students an opportunity to read their paragraphs aloud to the class, and five students shared their writing.

Scaffolding teacher-student interactions. The sub-criteria for this criterion included the process of scaffolding, which includes (a) contingency, (b) fading, and (c) transfer of responsibility. Van de Pol, Volman, and Beishuizen (2010) defined contingency as tailored, adjusted, and differentiated responses that a teacher gives to a student during instruction. They defined fading as "gradual withdrawal of the scaffolding" (Van de Pol, Volman, and Beishuizen, 2010, p. 275). Transfer of responsibility, according to Van de Pol et al. (2010), is the completion of the fading stage, when students can independently process the task.

In the Grade 2 classroom, Grace used contingency by asking students specific questions to determine their understanding of the task and why they were struggling to complete the task. Grace also used contingency by modeling how students could use their fingers to mark words, say words, and highlight the vowel sound of the word. Grace also used contingency to help students separate vowels from consonants. Grace also modeled how to sound out words when students asked how to spell a word. Grace also used contingency by asking students about word patterns and word meanings. Grace used fading by reminding students about the type of information they needed to place at the top of their papers and by prompting students to correct their sentences. Grace also used fading by providing positive feedback to students about their sentences. Grace also used fading by instructing students to search independently for the base of

words that had prefixes and suffixes. In addition, Grace used fading when she used thumbs up or thumbs down hand signals to verify student understanding of definitions. Grace transferred responsibility by asking students to complete the assignment in which they wrote a sentence using the word "moon" and highlighted the "oo" phoneme. Grace also transferred responsibility by asking students to independently find and highlight the "oo" phoneme in the last five words. In addition Grace asked students to independently find and highlight the base for words with prefixes.

In the intervention classroom Grade 1 students, Lily used contingency by reviewing the wall words and modeling how to sound out the words. Lily also used contingency when she wrote vowels and constants in different colors. Lily also used contingency by discussing similarities and differences related to "mp" words. In addition, Lily used contingency by asking students to practice sounding out words using hand-arm movements. Lily also used contingency by asking students to pronounce words emphasizing each phoneme and when she circled the letter "a" to emphasize the different vowel sounds of tusk and task. Lily moved back and forth between contingency and fading, depending on the student's ability to complete the task. Lily used fading by asking students to create a new word by changing the vowel sound. Lily transferred responsibility by asking students to independently sound out words using arm movements.

In the intervention classroom for Grade 3 students, Lily used contingency by asking students who, why, what, where, and how questions to assess their reading

comprehension. Lily also used contingency by asking students to clarify their next steps in completing the assignment, and when a student replied, "I don't know," she completed each step again with those students. Lily also used contingency by selecting a true story that was relevant to students in order to explain how to recount a story in chronological order. Lily also used contingency by reading a passage with students. In addition, Lily used contingency by asking students to find a vocabulary word and a word with a similar meaning in the same passage. Lily used fading by encouraging students to listen for key words as students reread the story together. Lily also used fading when students phoned a friend to ask them for help in answering a question related to the passage. In addition, Lily used fading by discussing the correct answers to comprehension questions. Lily transferred responsibility for learning by asking students to work independently to answer reading comprehension questions. Lily also transferred responsibility by asking students to independently highlight vocabulary words and words that had similar meanings.

In Joan's Grade 3 classroom, Joan used contingency by modeling paragraph writing. Joan also used contingency by modeling the correct use of space on the writing paper and how to write a complete sentence using correct punctuation. Joan used hand motions, such as silent clapping and thumbs up, to check for understanding. Joan also used contingency by asking questions about how to complete the writing assignments. Joan used fading by asking students to correct their use of space on the lined writing paper, spelling and punctuation errors, and line spacing as they wrote their paragraphs. Joan also used fading by asking students to either write their own sentences or to copy

her modeled sentences. Joan used transferred responsibility by giving students the opportunity to read their paragraphs aloud to the class.

Student engagement. The sub-criteria for this criterion included (a) conversation between students and teacher, and (b) conversation among students.

In Grace's Grade 2 classroom, student engagement was demonstrated through positive conversations between the students and teacher during Tier 2 small group instruction. Students were happy to see Grace, and they exchanged smiles and small talk. At the beginning of the lesson, Grace assigned jobs to students, such as passing out pencils or collecting the highlighters. Grace also redirected students when they were talking out of turn. Grace also repeated the directions for completing the task. A few conversations occurred between students during the lesson. Students explained classroom rules and gave advice to other students about how to complete the task in the small group. Students also reminded other students to focus on the lesson. In addition, students repeated the task directions to students seated on either side of them.

In the intervention classroom for Grade 1 students, student engagement in the small group lesson was evident when Lily directed the conversation by asking students to raise their hands to describe their time off from school. Lily also asked students follow-up questions about these experiences. No interactions between students occurred during this instruction.

In the intervention classroom for Grade 3 students, Lily engaged students in small group instruction by asking them to share comments about their vacations. In addition,

Lily and the students discussed a previous lesson that was similar to the current lesson. Lily also gave positive feedback to students throughout the lesson, such as "scholarly thinking" or "love how you think." Some conversation between students took place during the instruction. Students sometimes whispered to other students about the lesson. Students also used facial expressions and rolled their markers or pretended to write on the table to communicate with other students during instruction.

In the Grade 3 classroom, Joan engaged students in the lesson by asking them to raise their hands for permission to speak and read their paragraphs. Joan also required students to raise their hands to give ideas that could be added to the prewriting chart. Students quietly discussed their paragraphs with other students seated next to them.

Researcher behavior. The sub-criteria for this criterion included (a) location in the room, (b) teacher and student awareness, and (c) interaction with students.

For each of the observational instructions, I sat at a table close to the group lessons. For two observations, teachers and students ignored my presence. For one of the observations, a few students were aware of my presence because they made eye contact with me and smiled. During one of the observations, the teacher was aware of my presence and occasionally explained a classroom interruption or why she used an instructional prop, such as a phone call, the presence of the classroom aide, or why she used large lined post-it notes. For each of the observations, however, there was no interaction between me and the students and minimal interaction with the teachers. Table 4 is a summary of categories I constructed for the analysis of observation data.

Table 4

Summary of Categories for Observation Data Analysis

Criteria	*Categories*
Setting	Arranging student desks for Tier 1whole group instruction
	Arranging student desks for Tier 2 small group instruction
	Noting print resources, such as leveled & independent reading books, wall words, & posters for Tier 1 & 2 instruction
	Noting technology, such as student chrome books, interactive board, Elmo document reader, & teacher computers for Tier 1 & 2 instruction
Participants	Observing one teacher & instructional aide in all classrooms
	Noting Tier 2 classes for students in Grades 1-3 included 5-8 students
	Noting Tier 1 Grade 3 class included 23 students
	Noting gender balance in all classrooms
Lesson Objectives	
Grade 1	Introducing new phonemes
	Naming rhyming words
	Recognizing phonemes within words
Grade 2	Recalling prefixes & suffixes of base words
	Recognizing vowel diagraphs
Grade 3	Learning about comprehension strategies
	Retelling story in chronological order
	Learning about past and present local events
	Developing pre-writing lists
	Writing a then and now local story
Modeling & checking for understanding	
Grade 1	Reviewing “tch” phoneme
	Sounding out words using body movements

Grade 2	Modeling sounds of vowel phoneme
	Reviewing rules for writing complete sentences
	Requiring students to use finger to find words
Grade 3	Reviewing past lessons
	Using nonfiction story to teach chronological order
	Modeling highlighting of significant details
	Modeling how to write a story
	Modeling how to indent paragraphs
	Modeling use of correct sentence punctuation
	Modeling use of space on lined paper
	Modeling use of topic sentence
	Using hand signals to check understanding
Grades 1 & 3	Using colors to represent vowels & consonants
Guided practice	
Grade 1	Repeating words
	Reviewing sound segments
	Asking who, why, what, how, where questions
	Sounding out words using body movements
	Discussing meaning of words
Grade 2	Asking students to write sentences
	Providing feedback for student work
	Reading and rereading sentences
	Separating vowels from consonants
	Reminding students of base word meanings
Grade 3	Reinforcing students with positive comments
	Listening for key words or phrases
	Asking classmates for help in answering questions
	Using teacher and student developed sentences
	Correcting writing and space errors

	Using self-sticking paper to move for later student use
Independent practice	
Grade 1	Reading sight words
	Developing new words using named phoneme
Grade 2	Highlighting named phonemes and base words
Grade 3	Retelling of story in chronological order
	Noting students created stories using pre-writing
	Noting students read their stories
Scaffolding	
Contingency	
Grade 1	Reviewing wall words
	Reviewing how to sound out words
	Writing letters & consonants in different colors
	Discussing differences and similarities of words
	Using body movements to sound out words
	Sounding out words emphasizing each phoneme
Grade 2	Modeling use of finger to find & highlight words
	Modeling sounding out words for spelling
	Separating vowel and constant phonemes
Grade 3	Using relevant examples
	Modeling use of space on writing paper
	Modeling complete sentences
	Recalling how students completed task
Grades 1-3	Asking who, why, what, where, & how questions
Fading	
Grade 1	Creating new words by changing vowels
	Writing words that rhyme with named words
	Using arm/hand letter segmentation tool

Grade 2	Noting teacher and student reread words
	Sounding out words
	Discussing meaning of words
	Using hand signals to verify student understanding
	Reminding students of heading placement
	Reminding students of base word meanings
	Providing positive feedback
Grade 3	Reading passages together
	Phoning a classmate for help
	Finding and highlighting vocabulary words and words of similar meaning
	Discussing correct answers
	Reminding students of writing topic
	Asking students to use modeled sentences
Grades 1-3	Asking questions to determine understanding
Grades 2-3	Prompting students to correct use of space, spelling, & punctuation

Transfer of responsibility

Grade 1	Using body movements to sound out words
	Completing reinforcement paper at home
Grade 2	Finding and highlighting named phonemes and base words
Grade 3	Completing assignments independently
	Creating sentences or using teacher-modeled sentences
	Finding and highlighting vocabulary words and words of similar meaning

Student engagement

Student-teacher conversation

Grade 1	Asking students to raise their hands to speak
	Asking follow-up questions

	Correcting student responses
Grade 2	Assigning student jobs during instruction
	Redirecting students
	Repeating directions for completing task
	Reminding students to focus on lesson
Grade 3	Asking students to describe their vacations
	Discussing previous lessons
	Providing positive feedback
Grade 1-3	Noting positive conversations between students and teacher
Conversations among students	
Grade 1	Noting no interaction among students
Grade 2	Communicating with facial expressions
Grade 2-3	Whispering about lesson with peers
Researcher behavior	Sitting at table close to instruction
	Noting no interaction between students and researcher
	Noting minimal interaction between teachers and researcher

Content Analysis of Documents

The content analysis for the documents related to Tier 1 and Tier 2 reading instruction included a description of the purpose, structure, content, and use of each document (Merriam, 2009). The documents included the state reading standards for students in Grades 1-3 and the school accountability plan for reading. The documents also included district and school handbooks, state assessment scores, and Tier 1 and 2 progress monitoring assessments. This analysis was conducted in order to describe

district and school expectations for teacher instruction and student achievement and as a source of comparison to teacher perception and teacher observation data.

State standards for reading. The State Board of Education adopted the document titled *The State Common Core State Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects* in August, 2010, and it was modified in March, 2013. The intended purpose of this standards document was to improve student achievement and inform educators of what students are expected to know and be able to do at the conclusion of each grade level. The standards for students in Grades K-5 were presented as one document. The reading standards for students in K-5 were divided into three domains: literature, informational text, and foundational skills. These reading standards in each domain were also divided into four categories. The reading standards for literature and informational text were organized into the following four categories: (a) key ideas and details, (b) craft and structure, (c) integration of knowledge and ideas, (d) and range of reading and level of text complexity. The reading standards for foundational skills were organized into the following four categories: (a) print concepts, (b) phonological awareness, (c) phonics and word recognition, and (d) fluency. Students were expected to meet each year's standards for their grade level by the end of the school year. A complete list of the reading standards for students in Grades 1-3 are listed in Appendix F. For this study, teachers at Mustang Elementary School were expected to use this document to plan instruction and to provide evidence to administrators and parents that their instructional lessons were aligned to these standards.

School accountability plan for reading. The second document that I collected was the *Wooded Acres School District Local Control Funding Formula, Local Control and Accountability Plan* (LCFF/LCAP). The purpose of this document was to develop an accountability plan for reading, based on state and local priorities about district and school educators will use funding to support student achievement in reading. This document included a table of contents followed by statements of the district motto, mission, and core values. The document also included eight state priorities that were based on three categories that involved conditions of learning, pupil outcomes, and pupil engagement. This document also included a history of how parents and other community stakeholders were involved in the development of the LCFF/LCAP. The district's three main goals for student achievement were included, which were as follows: (a) all students will receive high quality common core classroom instruction and common core aligned curriculum as available, promoting college and career readiness and the closing of the achievement gap, as measured by a 5% increase in percentage of students meeting grade levels standards or above on SAASPP assessments from baseline in 2015 to spring 2017, (b) by spring 2017 100% of the teaching staff and 50% of the instructional aides will have participated in professional development opportunities ensuring quality instruction and strategies for all students. Professional development will also be provided for the common core state standard aligned textbooks as they are adopted, and (c) by spring 2017, each site will increase school connectedness by providing a socially, physically, and emotionally safe environment that is culturally responsive to all students and

families. In addition, the expected annual measureable outcomes were included for Year 1, which was 2015-16; Year 2, which was 2016-17; and Year 3, which was indicated as 2017-18. The LCFF/LCAP also included an annual review of the prior year's goals and the progress made towards those goals. The document ended with a summary description of the intended expenditures for the school year 2015-16.

In relation to reading, the LCFF/LCAP described how student achievement in English language arts and literacy was supported in the Wooded Acres School District. For this content analysis, I described the LCAP for Year 1, which was the 2015-16 school year when this study was conducted. The goal for that year was that "all students will receive high quality common core classroom instruction and common core aligned curriculum as available, promoting college and career readiness and the closing of the achievement gap, as measure by a 55 increase in percentage of students meeting grade level standards or above on the SAASPP assessments form baseline in 2015 to spring 2017." The LCAP also included a description of how this district goal would be met and how funding would be used to support student achievement. The measureable outcomes related to literacy development were as follows: (a) provide substitutes for teacher to collaborate twice a month about instructional strategies and student learning, (b) provide afterschool instruction three days a week with priority given to low income students, English language learners, and foster youth students, (c) purchase of chrome books for instructional use with a focus in Grades K-3 and special education, (d) increase the services of site literacy coaches so that every district campus has a fulltime site literacy

coach, (e) increase teacher support and professional development in intervention strategies, common core strategies, and new textbook training from site literacy coaches, (f) increase the focus of college vocabulary development and college/readiness activities, (g) support small group instruction by providing instructional aides based on upon the number of low income, English learners, and foster youth at each site, (h) provide financial support for the after school program for enrichment activities, homework and intervention time, and other academic endeavors, (i) provide *READY!*, a parent education program for parents of children ages 0-5 that focuses on kindergarten readiness skills, (j) provide services for English learner families, such as interpreters, training for bilingual aide, and intervention services, and (k) provide summer learning opportunities to increase student achievement. The role of the site literacy coaches was to "provide training, support intervention analyzing data, determine small group instruction needs, and training of aides and teachers" (Mustang Elementary LCFF/LCAP, 2015, p. 16). Each of the measureable outcomes listed above were analyzed at the end of the school year and presented in the Mustang Elementary LCFF/LCAP for 2016 posted on the district web site.

District and school handbooks. Two district handbooks and one school handbook were analyzed in relation to RTI services in English language arts and literacy. The first document was titled *Standards-Based Report Card Handbook*. The purpose of this document was to inform students and parents about the academic expectations in English language arts and literacy and mathematics for students enrolled in the Wooded

Acres Elementary School District. In terms of content, this document also included an explanation of how student academic progress towards meeting content standards at specific points was reported to parents and students and a description of student expectations in English language arts and literacy and mathematics for the Wooded Acres Elementary School District for students in Grades K-5, based on the common core state standards. This document also included a sample report card for students in Grades 1-3. The report card included targeted scores for foundational reading skills. For students in Grades 1 and 2, targeted scores for phonics reading fluency, reading accuracy, and irregular words for each reporting period were included. For students in Grade 3, targeted scores for phonics, reading fluency, and reading accuracy for each reporting period were included. The report card also included a place to report support services that students received in that reporting period, which could include English as a second language, classroom interventions, extended day tutoring, special education services with a reading specialist, and/or speech therapy. This document was intended as a reference for parents and students.

The second document was titled *Wooded Acres Elementary School District Handbook (2015-16) for Parents, Guardians, and Students*. The purpose of this document was to inform parents and students about the academic and extracurricular opportunities available in the Wooded Acres Elementary School District. In terms of content, this handbook included information about the Title 1 program and how parents could become involved in their children's English language arts and literacy instruction at

home and at school. In addition, this handbook included the statement that "students receive assistance through interventions provided in the regular classroom or in small group settings" (p. 8) and that these interventions are funded through Title 1 funds. The intended use of this document was as a reference for parents and students.

The third document was titled *Mustang Elementary School Handbook (2015-16) for Parents and Students.* The purpose of this document was to inform parents and students about the academic and extracurricular opportunities and the disciplinary expectations at Mustang Elementary School. In terms of content, it included information about the RTI services that students who were performing below grade level were eligible to receive, such as interventions in the regular classroom, pull-out programs, additional instructional support in the classroom, and/or extended day interventions. This document indicated that these intervention programs were specifically targeted to individual students and progress was closely monitored. The handbook also included a statement that student support teams were also available to assist students who were not performing at grade level. The intended use for this document was as a reference for parents and students.

State assessments. The next four documents described results of the *State Assessment of Student Performance and Progress* (SAASPP) in literacy for students enrolled in the Wooded Acres Elementary School District and at Mustang Elementary School for 2014-2015 and 2015-2016. The SAASPP was a computer assessment that replaced the *Standardized Testing and Report System (STAR),* a pencil and paper

assessment that was administered in the 2014-2015 school year, beginning in Grade 3. The purpose of these documents was to inform educators and parents about achievement levels in English language arts and literacy and mathematics for students enrolled in the Wooded Acres Elementary School District in terms of the percentage of students who had not met the standards, nearly met the standards, met the standards, or exceeded the standards. The first document, which was titled *2015 Wooded Acres Elementary District Results-SAASPP Reporting,* reported that 35% of the students in Grade 3 met or exceeded the state standards in English language arts and literacy. The second document, which was titled *2015 Mustang Elementary School Results SAASPP Reporting,* reported that 38% of the Grade 3 students met or exceeded the state standards in English language arts and literacy. The third document that was titled *2016 Wooded Acres Elementary District Results SAASPP Reporting*, reported that 43% of the Grade 3 students met or exceeded the state standards in English language arts and literacy, which was a slight increase over the 2015 results. The fourth document, which was titled *2016 Mustang Elementary School Results SAASPP Reporting,* reported that 66% of students in Grade 3 met or exceeded the state standards in English language arts and literacy, which was a moderate increase over the 2015 results. The intended use of these documents was to inform the public of student achievement levels in English language arts and literacy and to inform instruction and staff development.

Grade 2 diagnostic assessments. Three documents described the state regulations that teachers needed to follow when implementing diagnostic assessments in

English language arts and literacy and mathematics for students in Grade 2. The first document was titled *State Legislative Information Education Code–EDC Title 2*. The purpose of this document was to inform educators of state regulations in relation to the use of diagnostic assessments for students in Grade 2. In terms of content, this document included *Education Law 60644*, which stated that classroom teachers will be provided with a list of diagnostic assessments aligned with the common core state standards. *Education Law 60644* also stated that "the purpose of these assessments shall be to aid teachers and to gain information about the developing language arts and computational skills in grade 2."

The second document was titled *English Language Arts (ELA) Tables 1 and 2*. The purpose of this document was to provide Grade 2 teachers with a list of diagnostic assessments in English language arts that met the requirements of *Education Law 60644*. In terms of content, Table 1 included a list of diagnostic assessments that Grade 2 teachers could use that met state requirements for alignment with the common core state standards in English language arts, such as *i-Ready* and *Measures of Academic Progress*. Table 1 also indicated whether or not these assessments met requirements for validity, reliability, and appropriateness of use. Table 2 indicated whether or not these diagnostic assessments were aligned with the English language arts standards for (a) reading literature, (b) reading informational text, (c) reading foundational skills, (d) writing, and (e) speaking and listening. The intended use of this document was to inform their instruction in English language arts.

The third document was titled *ELA Tables 3 and 4*, and the purpose of this document was to inform educators of the assessment formats used in English language arts. In terms of content, this document included a list of diagnostic assessments, administrative procedures, recommended amount of times to administer these assessments during the year, languages used to administer these assessments, formats for these assessments, and accommodations in relation to state requirements. For example, *i-Ready* was described as a computer-based assessment that teachers should give to Grade 2 students three to four times during the school year. The intended use of this document was as a reference for administrators and teachers to assist them in choosing and implementing diagnostic assessments in English language arts.

Tier 1 and 2 progress monitoring assessments. Four documents were related to monitoring student growth in reading achievement in the regular education classroom for students in Grades 1-3. The first document was titled *BPST-IV (Basic Phonic Skills Test) Recording Sheet*, and it was designed for teachers to use when monitoring student performance in basic phonic skills, if they were performing below a middle Grade 4 reading level. The purpose of this document was to help teachers assess basic phonic skills that included naming consonant sounds and names, naming short vowel and long vowel sounds, and reading words with phonics patterns. The recording sheet included information about how to administer this assessment and provided a recording section for up to four assessments. The intended use of this document was to inform instruction for these students.

The second document was titled *First 100 High Frequency Words California English Language Arts Content Standard: First Grade, 1.11*. The purpose of this document was to help teachers assess student knowledge of high frequency words, and it included space to record three assessments. The intended use of this document was to monitor student learning and to inform instruction.

The third document was an *AIMSweb* assessment titled *It Rained All Day Grade 3, Passages 1-3.* The purpose of this document was to help Grade 3 teachers assess student reading fluency. The document included only the words that students were required to read in order to assess their reading fluency. The intended use of this document was to assess student fluency as part of the assessment battery to determine student progress in reading and to inform instruction.

The fourth document was an untitled document designed to help teachers to group students for reading instruction. This document included individual student reading achievement data for each Grade 1-3 classroom in relation to phonics skills, reading fluency rate, reading accuracy rate, state assessment results, and types of interventions that students had received. The chart for each classroom was color coded to emphasize student needs for reading instruction, including red for *urgent*, yellow for *intervention*, blue for *watching*, and green for *at grade level*.

Table 5 includes a summary of the categories that I constructed for the document analysis.

Table 5

Summary of Categories Constructed from Document Analysis

Documents	*Categories*
Reading standards	Including K-3 literacy standards
	Including K-3 informational text standards
	Including K-3 foundational skills standards
Accountability plan	Noting state priorities: (a) conditions of learning, (b) pupil outcomes, and (c) engagement
	Noting three district goals: (a) high quality common core instruction, (b) promoting college and career readiness, and (c) closing achievement gap
	Providing professional development opportunities
	Providing substitutes for teacher collaboration
	Providing afterschool reading interventions
	Increasing literacy coaching time
	Increasing professional development in intervention strategies
	Increasing focus on college level vocabulary development
	Providing instructional aides for small group instruction
	Providing financial support for after-school academic programs
	Providing parent education for parents of young children
	Providing English language learner services
	Providing summer learning opportunities
District and school handbooks	Presenting common core state standards, Grades 1-3
	Presenting sample report cards for Grades 1-3
	Stating target foundational reading scores for Grades 1-3
	Presenting sample reading standards
	Describing student support options such as English language development, classroom interventions, extended day tutoring, reading specialist, and/or speech therapy

	Describing support teams for students not performing in reading at grade level
	Noting Tier 1 and 2 classroom interventions
	Noting small group settings for reading interventions
	Noting parental involvement in literacy instruction
	Noting Title 1 program
	Describing student supports services for students not performing at grade level in reading, such as pull-out, extended day, and/or regular classroom programs
	Noting intervention specially targeted to individual student
	Noting progress monitoring
	Noting student support teams for students not performing in reading at grade level
State assessments	Noting new computer assessment for Grade 3 students
	Noting 35% of district's Grade 3 students met or exceeded state English language arts standards in 2015
	Noting 38% of school's Grade 3 students met or exceeded state English language arts standards in 2015
	Noting 43% of district's Grade 3 students met or exceeded state English language arts standards in 2016
	Noting 66% of school's Grade 3 students met or exceeded state English language arts standards in 2016
Grade 2 diagnostic assessments	Describing state diagnostic assessments for Grade 2 students
	Noting purpose is to inform Grade 2 reading instruction and future curriculum and instruction development
	Noting diagnostic assessments, such as *i-Ready* & *Measures of Academic Progress*, are aligned to common core state standards
	Describing administrative procedures, time allotments, languages, formats, & accommodations
	Noting *i-Ready* to be given 3-4 times to Grade 2 students
Tier 1 and 2 progress monitoring	Noting use of *BPST* a basic phonics skills test

Noting use of *First 100: High Frequency Words California English Language Arts Content Standard: First Grade, 1.11*
Noting use of *AIMSweb* for fluency assessment of Grade 3 students
Monitoring student scores in phonics, reading fluency, reading accuracy, state assessments and tracking current interventions
Coding student instructional needs by color

Level 2 Data Analysis

At the second level of data analysis, I examined the categories that I constructed for each data source, including the interviews, observations, and documents in order to determine the major themes that emerged from the analysis of these sources. These emergent themes are described below. In addition, I discussed whether or not any discrepant data emerged to challenge the theoretical proposition for this study.

Emergent Themes

Four major themes emerged from my analysis of the interview data, the observation data, and the documents. These four themes are described below in more detail.

Using diagnostic assessments to determine placement in Tier 2 reading interventions. Category construction of interview and observation data, which was supported by a content analysis of the documents, indicated that teachers in Grades 1-3 used diagnostic assessments and classroom observations to determine student placement in Tier 2 reading interventions by examining multiple types of assessment data in relation to specific grade level targets.

Using diagnostic assessments to inform instruction in Tier 2 reading interventions. Categorization of interview and observation data, which was supported by a content analysis of the documents, indicated that teachers in Grades 1-3 at this research site used a variety of diagnostic assessments to inform small group instruction in Tier 2 reading interventions.

Using scaffolding to support student learning in Tier 2 reading interventions. Category construction of interview and observation data, also supported by a content analysis of documents, revealed that teachers in Grades 1-3 used a process of scaffolding to provide instruction for students in Tier 2 reading interventions that included specific strategies related to contingency, fading, and transfer of responsibility.

Monitoring student progress in Tier 2 reading interventions. Category construction of interview and observation data, which was supported by a content analysis of the documents, indicated that teachers in Grades 1-3 at this research site monitored student progress in Tier 2 reading interventions by implementing a variety of diagnostic, formative, and summative assessments, which included observations of student performance.

Discrepant Data

For this single case study, discrepant data is defined as data that challenges the theoretical proposition for this study, which was that teachers used a process of scaffolding assessments and instruction in Tier 2 interventions for students in Grades 1-3 who were identified at-risk in reading, which included specific strategies related to

contingency, fading, and transfer of responsibility. No significant discrepant data was found that challenged this theoretical proposition because all Grade 1-3 teachers in this study provided examples of the specific strategies that they used in the scaffolding process during the interviews and during the observed lessons.

Evidence of Trustworthiness

Trustworthiness in qualitative research is important because others may wish to replicate the research findings. In this section I will discuss how I improved the trustworthiness of this qualitative research by using specific strategies to increase the credibility, transferability, dependability, and conformability of this research.

Credibility

Credibility is defined as the internal validity of qualitative research that requires correspondence between reality and the findings (Merriam, 2009). To improve the credibility of this study, I used the strategy of triangulation by comparing and contrasting the findings from each data source. In addition, I used the strategy of member checks by asking participants to review the tentative findings of this study for their plausibility. I also used the strategy of adequate engagement in data collection by collecting data from November, 2015 to September, 2016 until I believed saturation had been reached.

Transferability

Transferability is defined as the degree that qualitative research findings can be applied to other situations; however, these findings should be applied to other situations with caution because the transferability of research findings often lies with the individual

who applies them (Merriam, 2009). To improve the transferability of this study, I used the strategy of rich thick description by describing in detail the research setting, the participants, the data collection and analysis processes, and the findings. I also selected a research site that I believed was typical of how elementary school teachers implemented Tier 2 intervention instruction across this western state.

Dependability

Dependability is defined as the extent in which the research findings can be replicated (Merriam, 2009). To improve the dependability of this study, I used the strategy of triangulation by comparing and contrasting multiple data sources, including the interviews, observations, and documents. I also used the strategy of an audit trail by maintaining a researcher's journal in which I described in detail about how I collected and analyzed data to reach the study findings. The journal also included my reflections about research-related issues that emerged over the course of the study.

Confirmability

Confirmability is defined as the objectivity of qualitative research. To improve the objectivity of this study, I used the strategy of reflexivity (Merriam, 2009) by reflecting on my potential biases about reading interventions in a research journal that included the decisions that I made during the data collection and analysis process. I also minimized my presence during the observations of Tier 2 small group instruction in reading.

Results

The results of this section are presented and analyzed in relation to the related and central research questions for this study. The results for the related research questions are presented first because the central research question serves a synthesis of these findings.

Related Research Question 1 was: *How do teachers use diagnostic assessments to determine student placement in Tier 2 reading interventions?* The key finding for this first related research question was that teachers used diagnostic assessments and classroom observations to determine student placement in Tier 2 reading interventions by examining multiple types of assessment data in relation to specific grade level targets.

This finding was supported by an analysis of interview data and a content analysis of related documents. Interview data analysis indicated that all three teachers in Grades 1-3 at this research site reported that they used diagnostic scores from *i-Ready*, which measured student reading abilities in literature, informational text, and foundational skills in relation to the state standards for English language arts, to determine student placement in Tier 2 reading interventions. Grace, the Grade 2 teacher, and Lily, the site literacy coach, reported that they also used the BPST-IV and *Phonics for Reading* as diagnostic assessments to measure student knowledge of consonant and vowel names, phonemes, and specific phonic patterns. Lily also reported using *AIMSweb* to measure reading fluency. In addition, teachers reported using observations of students' classroom performance in reading to place students in Grades 1-3 in Tier 2 reading interventions.

Documents also supported an emphasis on using diagnostic assessments to place students in Tier 2 reading interventions. *ELA Tables 1 and 2* stated that *i-Ready* was a diagnostic assessment that classroom teachers could use to assess the performance of Grade 2 students in reading to determine intervention placement. *ELA Tables 3 and 4* stated that *i-Ready* should be administered 3-4 times a year with accommodations.

Related Research Question 2 was: *How do teachers use diagnostic assessments to inform their instruction in Tier 2 reading interventions?* The key finding for this second related question was that teachers in Grades 1-3 at the research site used a variety of diagnostic assessments and observation to inform their small group instruction in Tier 2 reading interventions.

Data analysis of all sources supported this finding. During the interviews, teachers reported that they met once a week to discuss student placement and instruction for Tier 2 reading interventions and that these discussions were based on a review of specific diagnostic assessments. For example, teachers in Grade 1 and 2 reported using the *Basic Phonics Skills Test* (BPST-IV) to obtain additional information about the type of instruction that student at-risk in reading needed in relation to knowledge of letter names and sounds and word phonic patterns. Teachers in Grade 1 and 2 also reported using the *Systematic Instruction in Phonological Awareness* (SIPPS) pretest to inform the starting point of their instruction for the SIPPS curriculum. They also used data from the *Phonics for Reading* pre-test and the BPST-IV to inform the starting point of their instruction for the *Phonics for Reading* curriculum. Teachers in Grades 2 and 3 reported

using data from the *AIMSweb* assessment to determine the type of reading instruction that at-risk students needed in Tier 2 interventions. Teachers in all three grades reported using data from *i-Ready* assessments to determine instruction for standards related to literature text, informational text, and foundation skills in reading. Teachers in all three grades also reported using data that they collected in relation to reading accuracy to inform Tier 2 instruction. In addition, teachers in all three grades reported using observations of student performance on classroom assignments and assessments to validate diagnostic, formative, and summative assessment data.

Observation data analysis revealed that teachers at all grade levels diagnostically assessed student reading skills in order to inform their Tier 2 instruction. Teachers used observations of student reading fluency and accuracy to verify their reading skills and inform instruction. All teachers also asked students questions about the reading lessons in order to assess foundational reading skills and reading comprehension skills to determine if additional instruction was needed.

Document analysis revealed that teachers were required to administer diagnostic assessments at the beginning of the school year, such as the *Basic Phonics Skills Test* (BPST-IV) and *i-Ready* and summative assessments, such as BPST-IV and *AIMSweb* at the end of each trimester to determine students' instructional needs in Tier 2 reading interventions. The *Standards-Based Report Card Handbook* document listed Tier 2 instructional support services that students could receive to improve reading achievement, which was based on student assessment data.

Related Research Question 3 was: *How do teachers use the scaffolding process to provide instruction for students in Tier 2 reading interventions?* The key finding for this question was that teachers in Grades 1-3 used a process of scaffolding to provide instruction for students in Tier 2 reading interventions that included specific strategies related to contingency, fading, and transfer of responsibility.

Interview data supported this finding. In relation to contingency, which involved adjusting, tailoring, or differentiating their responses or support during instruction, all teachers reported that they used the strategy of ability grouping in order to differentiate their support. Teachers also reported that they used the strategies of questioning, highlighting words and letters, and repetition and review to adjust their instruction when students needed more support. Lily, the site literacy coach, reported that she used the strategy of modeling to provide additional instructional support for at-risk readers. Joan, the Grade 3 teacher, stated that she used the strategies of peer modeling and peer teaching during the contingency stage of scaffolding. Grace, the Grade 2 teacher, reported that she used the instructional strategy of proximity seating during the lesson to provide additional support for these students. Concerning fading, which involved the gradual withdrawing of support, Grace, the Grade 2 teacher, and Joan, the Grade 3 teacher, reported paring skilled readers and unskilled readers together during instruction. In relation to transfer of responsibility, which involved a total withdrawal of support so that students could complete tasks independently, Grace reported that using the strategies of teacher-established goals and consistent instructional routines to help students work

independently. Grace also reported using the strategies of sentence starters and adjusting student homework to help students work on their own. Lily reported using the instructional strategy of repetition to help students work independently. Joan reported using the instructional strategy of differentiation to help students work on their own.

Observation data analysis also indicated that teachers in Grades 1-3 at this research site used specific strategies at each stage of the scaffolding process during Tier 2 reading interventions. In relation to contingency, I observed all teachers using the strategies of questioning and observation of reading skills in order to adjust their responses during Tier 2 instruction. Teachers also used the strategy of modeling to help students complete specific reading tasks. In addition, teachers adjusted their responses during Tier 2 instruction by using the instructional strategy of highlighting words and word parts and using different colors for letters of a word to emphasize vowels and consonants. During fading, I observed all teachers using the strategy of cooperative learning by instructing students to complete a task in cooperation with other students. I also observed teachers using the strategy of body movements to help students practice sounding out words. Grace, the Grade 2 teacher, and Joan, the Grade 3 teacher, also used vocabulary strategies to help students explore word meanings during discussions of reading selections. They also used the strategy of rereading portions of text together to improve students' fluency and comprehension skills. During the transfer of responsibility stage, I observed teachers using the strategy of withdrawal by asking students to complete tasks independently, such as reading a passage, highlighting important details of a

passage, and summarizing a passage on their own. I also observed that, Grace, the Grade 2 teacher, asked students to independently highlight the base and vowel diagraphs of words. I observed Lily, the site literacy coach, asking students to independently practice sounding out words using body movements. In addition, I observed Joan, the Grade 3 teacher, asking students to compose their own sentences using the class developed word chart.

Document analysis also supported this finding. The Mustang Elementary School Handbook stated that academic intervention services were available to students performing below grade level, which included tailored and monitored instruction provide in a variety of educational settings. In addition, the untitled chart of student data indicated those students who needed additional instruction based on grade level targets, and teachers used it to place students in ability groups.

Related Research Question 4 was: *How do teachers monitor student progress in Tier 2 reading interventions?* The key finding for this fourth related research question was that teachers in Grades 1-3 at this research site monitored student progress in Tier 2 reading interventions by implementing formative and summative assessments, which included observations of student performance.

This finding was supported by analysis of all data sources. Interview data analysis indicated that all teachers reported using formative assessments to monitor student progress in reading. Lily, the site literacy coach, reported using formative assessments to check student knowledge of sight words and reading fluency every other

week. Grade 1-3 teachers also used daily classroom observations of student reading abilities as formative assessments to monitor student progress. Joan, the Grade 3 teacher, reported using the review of student completed worksheets as formative assessments. Grace, the Grade 2 teacher, reported that formative assessments included evaluating daily reading assignments, listening to student responses during instruction, monitoring questions students asked during instruction, and reviewing parental feedback from homework assignments. In relation to summative assessments, Grade 1-3 teachers reported using trimester assessment data, which included the PBST-IV, the *First 100: High Frequency Words State English Language Arts Content Standard*, and the *AIMSweb*. In addition, Joan reported using the summative assessments of *Treasure* and *Ready Reading* to monitor student reading progress on a weekly basis.

Observation data indicated that all teachers used formative assessments involving observations of student reading performance in class to monitor student progress in reading. Teachers used questioning as a formative assessment to determine student mastery of instructional reading tasks. Teachers also used the review of independently completed student work as a formative assessment. Lily, the site literacy coach, used formative assessments by observing students reading words, sentences, and passages and by listening to students retell stories in chronological order. In relation to summative assessments Lily reviewed parent-signed student homework to monitor student reading progress on a daily basis.

Several documents supported this finding about the use of summative and formative assessments to progress monitor student reading achievement. Examples of summative assessments included the *Basic Phonics Skills Test* (BPST-IV), the *First 100: High Frequency Words State English Language Arts Content Standard: First Grade, 1.11,* and *AIMSweb*. Teachers used these summative assessments to monitor student progress in reading skills acquisition at the end of each trimester. In addition, the *Standards-Based Report Card Handbook* included descriptions of how teachers monitored student progress was monitored for foundational reading skills in relation to grade level target scores. Another example of summative assessments included the untitled document, which was a color-coded chart of individual student summative assessment scores at the end of each trimester that Grade 1-3 teachers used to monitor student progress in reading achievement once a month during the school year. In terms of formative assessments the *Mustang Elementary School District Handbook* stated that teachers observe student classroom performance in language arts and make adjustments to instruction based on those observations. The handbook also stated that student academic abilities are assessed through labs, projects, and presentations that can be used to adjust instruction.

The central research question was: *How do teachers use assessments and instruction in Tier 2 interventions for students in Grades 1-3 who are identified at-risk for failure in reading?* The key finding for this question was that teachers in Grades 1-3 at this research site used diagnostic assessments and classroom observations to place

students at-risk in reading in Tier 2 instruction, and they used diagnostic, formative and summative assessments to inform Tier 2 reading instruction for these students. Teachers also used a scaffolding process that involved contingency, fading, and transfer of responsibility to provide instruction for these students.

Interview data analysis supported this finding about teacher use of diagnostic assessments for Tier 2 student placement and to inform starting points of Tier 2 instruction. Teachers at all grade levels reported that they used diagnostic assessments to place students in Tier 2 instruction. Grace, the Grade 2 teacher, reported,

> We first assess their PBST, we assess their phonics levels, [and] then we do an *AIMSweb* so we do fluency and accuracy. Based on those assessments, we take all the second graders, and we order them [based on] need, [and] based on their lower BPSTs to their highest, then we group them.

Grace also reported that students who fail the PBST are further diagnostically assessed in relation to their phonics needs, and instruction begins at that point. Joan, the Grade 3 teacher, added,

> Looking at the data [and at] areas that students are struggling I tend to break those [students into] particular groups. If you're struggling with being able to comprehend when we read [a] novel, then you are going to get more of that so I base [the groups] on students that are scoring lower than usual in certain areas.

Lily, the site literary coach, added that two groups are formed from the pre-test results on the SIPPS. Lily also reported that "we do trimester testing three times a year [and] we

look at that and the beginning of the year as well as each trimester. We start to see who is below our benchmarks and build our groups." Thus, all teachers reported using diagnostic assessments to help them place students in Tier 2 instruction and to inform their starting point of instruction.

Interview data analysis also supported this finding about teacher use of formative and summative assessments in Tier 2 instruction. Teachers at all grade levels reported using formative assessments to inform Tier 2 instruction for these students. Lily, the site literacy coach, and Joan, the Grade 3 teacher, reported using formative assessments every other week to monitor reading achievement growth for students engaged in Tier 2 instruction. Lily also reported using observations of students' classroom performance during Tier 2 reading instruction as a formative assessment to monitor student reading achievement. Grace, the Grade 2 teacher, reported using observations of student classroom performance that included listening to students reading, listening to student questions relation to reading, and listening to student feedback about reading, such as their understanding of a sentence or their response to naming the base of a word. Grace also reported using the strategy of reviewing students' weekly *Phonics for Reading* packets to assess their progress in reading. Teachers at all grade levels also reported using specific summative assessments to inform their Tier 2 instruction for these students. All teachers reported using the following summative assessments: (a) PBST-IV to assess student knowledge of foundational reading skills, (b) *AIMSweb* to assess reading fluency, (c) *First 100: High Frequency Words State English Language Arts*

Content Standard to assess student knowledge of sight words and reading accuracy, and (d) *i-Ready* to assess foundational reading skills, vocabulary, and comprehension of informational and literacy text at the conclusion of each trimester to monitor reading achievement. In addition Joan, the Grade 3 teacher, also reported using *Treasures* and *Ready Reading* weekly assessments to monitor student progress in reading. Grace also reported using the end of the unit *Phonics for Reading* assessment to determine the skills students had mastered.

Observation data analysis also revealed that teachers used specific formative assessments to inform their Tier 2 instruction. For example, I observed Lily, the site literacy coach, listening to students discuss the similarities and differences of word patterns in order to assess their phonics skills. I also observed Lily asking students to retell the parts of a story in order to assess their reading comprehension skills. I observed Grace, the Grade 2 teacher, assessing student responses to questions about the meanings of words and word patterns in order to monitor student progress in relation to comprehension and phonics reading skills. In relation to summative assessments, however, I did not observe teachers using them. I only conducted one observation of an instructional reading lesson for each participant, which did not provide enough time to observe these types of assessments.

A content analysis of the documents supported these findings. The first document titled *State Legislative Information Education Code –EDC Title 2* stated that teachers were encouraged to use state recommended diagnostic assessments "for the purposes of

identifying particular knowledge or skills a pupil has or has not acquired in order to inform instruction and make educational decisions" for Grade 2 students. The second document titled *ELA Tables 1 and 2* listed diagnostic assessments for students in Grade 2 for English Language Arts, which included *i-Ready*. The third and fourth documents, the *BPST-IV Recording Sheet* that gave instructions for assessing and recording data of phonic skills and the *AIMSweb* that was used to assess reading fluency, were examples of diagnostic assessments teachers used to determine the individual reading skills of students and to group them accordingly. Document data analysis also revealed that teachers were encouraged to use summative assessments to inform their instruction. The first document, which was untitled, was a chart of individual student assessment data for students in Grades 1-3 that showed results from the beginning of the school year and trimester results from the BPST-IV, fluency tests, accuracy tests, and the *Standardized Testing and Report System* (STAR) to monitor student progress results. The second document, which was titled *Standards-Based Report Card Handbook,* described the target assessment scores for foundational, literature, and informational skills used to monitor student progress. The third document, which was titled *Mustang Elementary School Handbook (2015-16*) for Parents and Students, stated that student reading skills were monitored using these target scores and that assessment scores should serve as discussion topics during parent teacher conferences. The fourth document, which was titled *Mustang Elementary School Handbook (2015-16) for Parents and Students*, stated that state reading assessments were based on the state reading standards and that "the

results are used for a variety of purposes, most importantly the determination of a student content knowledge, skills, and abilities." The document also stated that teachers were encouraged to use different types of summative assessments, such as projects, presentations, labs, and portfolios, to monitor student progress in reading.

In terms of instruction, teachers used the process of scaffolding to provide Tier 2 instruction to students identified at risk in reading. During the first stage of scaffolding, which was defined as contingency, teachers ask students questions related to specific reading passages in order to determine their foundational reading skills and their reading comprehension skills. Teachers also used modeling of specific tasks, such as metacognition processing and how to recall a story in chronological order to differentiate their support for students at-risk in reading. Teachers moved students into the second stage of the scaffolding process, the fading stage, by asking students of higher functioning levels in reading to work with student of lower reading abilities in order to guide their practice of the modeled tasks. When teachers believed that students were able to accomplish a reading task on their own, students were given similar tasks to complete independently, which included recalling information from reading passages and highlighting named letters and base words.

Table 6 is a summary of the key findings or results of this study.

Table 6

Summary of Results

Research Question	*Key Findings*
RRQ 1: Using diagnostic assessments to determine Tier 2 placement	Examining different types of assessment data Reviewing specific grade level targets
RRQ2: Using diagnostic assessments to inform Tier 2 instruction	Using a variety of diagnostic assessments to support small group instruction
RRQ3: Using a scaffolding process to support Tier 2 instruction	Using contingency Using fading Using transfer of responsibility
RRQ4: Monitoring student progress in Tier 2 interventions	Using a variety of formative assessments Using a variety of summative assessments Using observations of student performance
CRQ: Using assessments and instruction in Tier 2 interventions	Using diagnostic assessment for placement Using observation of classroom performance for placement and to support small group instruction Using formative and summative assessments to support small group instruction Using scaffolding process to support small group instruction

Summary

This chapter was about the results of the study. This chapter included two levels of analysis. Level 1 analysis included an analysis of interview and observation data as

well as an analysis of documents that supported the implementation of the RTI model at this site. A summary table of the categories constructed for each data source was also included. Level 2 analysis included an analysis of the categorized interview data, observation data, and documents to find emergent themes and discrepant data. In addition, evidence of trustworthiness was presented in relation to strategies used to improve the credibility, dependability, transferability, and confirmability of this qualitative research. The results were presented in relation to the central and related research questions.

Chapter 5 includes an interpretation of the findings for this study in relation to the literature review conducted in Chapter 2 and the conceptual framework. Chapter 5 also includes a discussion of the limitations of this study, recommendations for future research, and implications for social change.

Chapter 5: Discussion, Recommendations, and Conclusions

The purpose of this study was to explore how teachers in Grades 1-3 used assessments and instruction in Tier 2 interventions for students identified at-risk in reading. A case study design was used to explore the boundaries between the phenomenon of Tier 2 interventions and the instructional environment of the general education classroom. The case study research design supported the collection of data from multiple sources of evidence to present a rich picture of the phenomenon of Tier 2 reading interventions in Grades 1-3.

I conducted this study in order to address gaps in research that I identified during my literature review. One research gap was that limited research has been conducted on effective Tier 2 reading interventions, particularly in relation to the types of interventions that are most effective for teaching phonological awareness, reading fluency, and reading comprehension (Denton et al., 2011; Goss & Brown-Chidsey, 2012; Holmes, Reid, & Dowker, 2012; Hooper et al., 2013; Reynolds, Wheldall, & Madelaine, 2011). Another research gap was the lack of research found regarding how teachers identify students who are at-risk for reading deficits (Compton et al., 2010; Fletcher & Vaughn, 2009; Speece et al., 2012; Wanzek, Roberts, & Otaiba, 2013). In addition, there is lack of research about specific instructional strategies that teachers use during Tier 2 instruction (Coyne et al., 2013; Denton et al., 2010; Little et al., 2012; Spörer, Brunstein, & Kieschke, 2009; van de Pol & Elbers, 2013). I feel that a case study was an appropriate design to address the purpose of this study and the research gaps that emerged from my literature review.

The key findings for this single case study emerged from a two-level data analysis. The first key finding was that teachers used different types of diagnostic assessments and observations of classroom performance in relation to specific grade level targets in order to determine the placement of students in Grades 1-3 in Tier 2 interventions. The second key finding was that teachers used diagnostic assessments to inform small group instruction in Tier 2 interventions. The third key finding was that teachers used a scaffolding process to support Tier 2 instruction that involved contingency, fading, and transfer of responsibility. The fourth key finding was that teachers monitored student progress in Tier 2 interventions by using formative and summative assessments that included observations of student performance. Based on my findings, I determined that teachers in Grades 1-3 at my research site used a variety of assessments and instructional strategies to instruct students at-risk in reading who had been placed in Tier 2 interventions.

Interpretation of the Findings

The findings for this study are interpreted in relation to the literature review and the conceptual framework. An interpretation of the related research questions is presented first because the central research question involves a synthesis of these interpretations.

Assessing to Place Students in Tier 2 Instruction

In answering Related RQ1, I found that teachers used different types of diagnostic assessments and observations of classroom performance in relation to specific grade level

targets to determine student placement in Tier 2 reading interventions. There is support for this finding in the educational literature. In seeking to identify reading problems for Grade 1 students within a RTI framework, Speece et al. (2011) found that teacher observations of student reading abilities increase the validity of a first-grade reading battery to identify at-risk students. Lam and McMaster (2014) analyzed 14 research studies for predictors of responsiveness to early literacy intervention. They found that word identification, alphabetic principle, fluency, and phonemic awareness are predicators of the need for RTI intervention and that IQ and memory are inconsistent predicators (Lam & McMaster, 2014). The RTI model that teachers implemented at my research site included a similar assessment battery to the one that Lam and McMaster recommended for place students in Tier 2 interventions. In another study, Catts, Nielsen, Bridges, Liu, and Bontempo (2015) investigated possible universal screens and progress monitoring probes for accurately identifying students at-risk in reading in kindergarten. Catts et al. found that use of a screening battery that included letter name fluency, phonological awareness, and non-word repetition allowed teachers to accurately identify at-risk students at the end of Grade 1. Teachers at the research site for this study used a similar universal screen at the beginning of Grade 1 to identify and place at-risk students in Tier 2 interventions for reading. Their use of diagnostic assessments to identify students in need of such interventions is consistent with the best practices that other researchers identified.

Assessing to Inform Tier 2 Instruction

The finding for Related RQ2 was that teachers in Grades 1-3 at the research site used a variety of diagnostic assessments to inform their small group instruction in Tier 2 reading interventions. Research supports this finding. Chambers et al. (2011) explored the use of small group, computer-assisted tutoring to improve reading skills for students in Grades 1 and 2 and found that this type of small group tutoring was more effective than one-on-one tutoring. In synthesizing research on effective programs for struggling readers, Slavin et al. (2011) found that small group instruction and cooperative learning improved reading skills for all learners, including students at-risk in reading. Gelderblom, Schildkamp, Pieters, and Ehren (2016) investigated whether or not primary teachers use assessment data to inform instruction and found that teachers use scattered data, such as classrooms tests, progress monitoring, teacher observations, and or district and state assessments, to inform instruction. Hill and Lemons (2015) examined the relationship of CBM data and small group reading instruction for students in Grades K-5 and found that teachers used CBM data to differentiate instruction. Gardenhour (2016) investigated student achievement in RTI reading groups using progress monitoring data and found that the strength of the fidelity of RTI implementation matched the progress monitoring scores of students. Gardenhour (2016) also found that small group instruction was aligned with the progress monitoring outcomes. Teachers at the research site for this study used similar assessment data to inform their small group instruction.

Scaffolding Tier 2 Instruction

The finding for Related RQ3 was that teachers in Grades 1-3 used a process of scaffolding to provide instruction for students in Tier 2 reading interventions that included specific strategies related to contingency, fading, and transfer of responsibility. Research supports this finding. Current research studies support the use of contingency in scaffolding, which involves teacher modeling and immediate and tailored teacher feedback. Baker, S., Fien, and Baker, D. L. (2010) investigated conceptual and practical issues in the integration and evaluation of Tier 1 and Tier 2 instructional support for students in the early grades. Baker et al. found that current research supports explicit instruction for Tier 2 instruction that includes the following strategies: (a) teacher modeling of new skills and knowledge, (b) the offering of many opportunities for students to practice new skills, (c) immediate and systematic feedback from the teacher, and (d) fast-paced lessons to increase student engagement and to address the broad scope of reading skills. Other research studies support the use of fading as a scaffolding strategy, which involves gradual withdrawal of instructional support (Ahmad, 2010; Puzio & Colby, 2013). Cooperative learning is particularly effective as a fading strategy, because it gives students the opportunity to claim partial ownership of task completion. In related research, Puzio and Colby (2013) conducted a meta-analysis of cooperative learning in relation to reading instruction and found that cooperative learning had a significant positive effect on student achievement in relation to vocabulary skills, reading comprehension, and general reading ability. Ahmad (2010) explored the effect of

cooperative learning on student achievement at the elementary school level and found that it was significantly more effective than traditional instruction in improving academic achievement and creative thinking abilities. Research studies also support the scaffolding strategy of transferring responsibility for mastering reading skills from the teacher to the student. Mahdavi and Tensfeldt (2013) reviewed 25 research studies about reading comprehension strategies that primary level teachers used to teach students with reading deficits and found that their use of the following five instructional strategies improved students' reading comprehension skills: (a) peer learning, (b) self-questioning, (c) story grammar and text structure, (d) story mapping and graphic organizers, and (e) vocabulary development. Mahdavi and Tensfeldt concluded that students who used these strategies were able to work independently to comprehend reading passages. Thus, research supports the use of contingency, fading, and transfer of responsibility as scaffolding strategies to improve reading skills.

Monitoring Student Progress in Tier 2 Interventions

The finding for Related Research Question 4 was that teachers in Grades 1-3 at this research site monitored student progress in Tier 2 reading interventions by implementing formative and summative assessments, which included observations of student performance.

Research supports this finding. Formative assessments are defined as any set of measurements used "to monitor student learning to provide ongoing feedback that can be used by instructors to improve their teaching and by students to improve their learning"

(Eberly Center, 2010, p. 1). In related research, Christ, Zopluoglu, Monaghen, and Norman (2013) examined multiple studies on progress monitoring in relation to the schedule, duration, and dataset quality on progress monitoring outcomes and found that curriculum-based measurements, which are considered formative in nature, are "uniquely suited to improve student achievement, especially as applied within contemporary models of data-based problem solving and response interventions" (p. 19). In a similar study about formative assessments, Merino and Beckman (2010) examined curriculum-based measurements as predictors for student success on the *Measures of Academic Progress* (MAP) in the state of Nebraska. Merino and Beckman found that the *AIMSweb Oral Reading Fluency* was better than the *Maze* at predicting student reading scores on the MAP in Grades 2-5, particularly at Grade 2. Merino and Beckman also found that the *AIMSweb Oral Reading Fluency* was valid in predicting reading outcomes on the *MAP* for English language learners at-risk in reading. In addition to formative assessments, teachers also use summative assessments to measure learning for young students at-risk in reading, and these assessments are defined as any set of measurements that "evaluate student learning at the end of an instructional unit by comparing it against some standard or benchmark" (Eberly Center, 2010, p. 1). Gilbert et al. (2013) examined the effectiveness of the RTI model for Grade 1 students that used summative assessments to monitor student progress and found that students who received Tier 2 interventions made significant progress. Clemens, Shapiro, Wu, Taylor, and Caskie (2014) investigated the validity of nonsense word fluency (NWF) and word identification fluency (WIF) progress

monitor slope to predict Grade 1 reading achievement at the end of the year and found that NWF and WIF were valid predicators of Grade 1 year-end reading achievement outcomes. Clemens et al. (2014) also found that the WIF provided a clear picture of student growth in reading. Teachers at this research site also used formative and summative assessments to monitoring reading achievement for students in Tier 2 interventions.

Tier 2 Assessment and Instruction

The finding for the central research question was that teachers in Grades 1-3 at this research site used diagnostic assessments and classroom observations to place students at-risk in reading in Tier 2 instruction, and they used diagnostic, formative, and summative assessments to inform Tier 2 reading instruction for these students. Teachers also used a scaffolding process that involved contingency, fading, and transfer of responsibility to provide instruction for these students.

Research supports this finding. Gilbert, Compton, Fuchs, D., and Fuchs, L. S. (2012) examined research about early screening for students at-risk for reading disabilities and proposed the following four-step screening process to accurately identify students who may be at-risk in reading: (a) universal screening of all students in Tier 1 instruction to verify that students are proficient in reading at their grade level, (b) monitoring student progress in Tiers 1, 2, and 3, (c) alleviating false positives through follow-up assessments, and (d) evaluating student progress and making adjustments to current instruction. This study is particularly supportive of the finding for the central

research question because teachers at the research site for this study used a similar method of screening, placing, adjusting, and monitoring student progress in Tier 2 interventions. In a paper about the comprehensive assessment and evaluation of students with learning disabilities, the National Joint Committee on Learning Disabilities (NJCLD, 2011) also supported teacher use of multiple diagnostic assessments by identifying the following six categories of literacy skills based on the IDEA (2004) legislation that requires educators to use in order to determine specific literacy disabilities for students: (a) oral expression, (b) listening comprehension, (c) written expression, (d) basic reading skills, (e) reading fluency skills, and (f) reading comprehension. The assessment of these literacy skills usually begins in Tier 1 instruction with universal screening and is followed up in Tier 2 interventions to determine how to meet the needs of students who need additional instruction (IDEA, 2004). In a study about identifying students at-risk for reading acquisition, Snowling, Duff, Petrou, Schiffeldrin, and Bailey (2011) examined the assessment battery used to identify students at-risk for dyslexia and concluded that the validity of teacher observations are strengthened when they are combined with other assessments, such as phonological awareness and reading fluency. In a study about scaffolding, Van de Pol and Elbers (2013) analyzed teacher-student interactions and found that student ability to complete tasks increased when the teacher modeled how to complete them. Van de pol and Elbers also found that the degree of teacher-student interaction begins to decline as students complete tasks independently, with the goal of transferring responsibility for learning from the teacher to the student. In

other related research, Dehqan and Samar (2014) explored the impact on student reading comprehension skills when teachers used the instructional strategy of scaffolding, which they defined as locating and instructing students in their zone of proximal development. Dehqan and Samar found that students who received scaffolding from peers or their teacher during reading instruction improved their comprehension skills more than students who did not receive scaffolding. In another study, Frey and Fisher (2010) explored the types of instructional strategies teachers used during guided learning and found that they used four distinct instructional strategies to scaffold student understanding: (a) using questions to check for understanding, (b) prompting cognitive and metacognitive work, (c) using cues to focus student attention, and (d) providing direct explanations or modeling when the learner continued to struggle. Thus, the research findings at this research site are consistent with the findings of other current research studies.

Conceptual Framework

The conceptual framework for this study was based on Vygotsky's (1929) cultural-historical theory of psychological development, particularly in relation to cognitive development and the zone of proximal development. Vygotsky (1929) maintained that cognitive development includes (a) the processes of mastering the external means of cultural development and thinking in relation to language, writing, counting, and drawing, and (b) the processes of higher mental functions, which include the concepts of logical memory, categorical perception, voluntary attention, and

conceptual thinking. In terms of designing instruction to develop these higher mental functions, Vygotsky discussed the importance of teaching writing, the pivotal role of subject matter concepts, and the role of the teacher in providing instruction. Vygotsky believed that cognitive growth takes place at the student's zone of proximal development. Vygotsky defined the zone of proximal development as the space between what students can accomplish without assistant and what they can accomplish with an individual who functions at a higher cognitive level.

Vygotsky's (1929) theory supports the key findings of this study in relation to how teachers in Grades 1-3 at this research site used assessments and instruction in Tier 2 interventions for students identified at-risk in reading. The key findings for this study were that teachers used diagnostic assessments and classroom observations to place students at-risk in reading in Tier 2 small group interventions, and they used formative and summative assessments to inform their instruction and monitor progress for these students. Teachers also used a scaffolding process that involved contingency, fading, and transfer of responsibility to provide instruction for these students. Vygotsky believed that each student has a unique learning level that is based on past interactions with adults, peers, culture, and environment. Vygotsky's belief is particularly important to intervention instruction because this unique learning level is the point at which instruction will be most effective for the individual student. Scaffolding allows students to concentrate on the task elements that they can complete.

Teachers in this study used a variety of instructional strategies to scaffold or support student learning. At the contingency stage of scaffolding, teachers asked comprehension questions about various reading selections to determine the zone of proximal development or the point at which instruction would be most effective in helping students to master specific reading skills. Teachers also modeled the ideal form that Vygotsky (1934/2002) believed was helpful in developing higher mental functions, including logical memory, categorical perception, voluntary attention, and conceptual thinking. Teachers modeled this ideal form in reading instruction by reading individual letters, words, and passages aloud. Teachers also modeled how to phonetically segment words, and they modeled how to use metacognitive skills to help students improve their reading comprehension skills. During the scaffolding stage of fading, teachers in this study gradually removed some of their instructional support. They assisted students in reading passages together, collaborating with other students on reading tasks, and discussing the correct answers. Students with advanced cognitive abilities often assumed the role of the teacher in assessing their peers' emerging cognitive functions through collaborative work that involved determining accurate word pronunciations and meanings. During the stage of transfer of responsibility, teachers at this research site encouraged students to complete tasks independently, such as finding and highlighting words with similar meanings, phonemes, or base words.

Vygotsky also proposed four strategies that teachers could use to scaffold

assessments of a student's capabilities, which included (a) demonstrate how to complete a task and observe the student mirror this demonstration, (b) start a task and ask the student to complete the task, (c) ask the student to complete a task in collaboration with a higher functioning student, and (d) demonstrate metacognition in solving the task (Gredler, 2009). Teachers in this study demonstrated how to complete tasks and asked students to mirror their demonstrations and demonstrate metacognition in solving the task in order to determine the zone of proximal development so that they could provide needed scaffolds.

Limitations of the Study

The limitations that emerged for this single case study were related to the research design of case study. Yin (2014) noted that literal replication is possible with only one case if that case is unique or compelling, and theoretical replication is possible only when at least four to six cases have similar findings. Therefore, the first limitation was that this study included only one case, which limited the transferability of the findings to similar populations. The case for this study was also typical of the Tier 2 reading interventions that teachers in Grades 1-3 provide for students at risk in reading in this western state, and therefore, this case was not unique.

The second limitation was that as a single researcher, I was the only person responsible for the collection, analysis, and interpretation of all data. Therefore, the possibility of researcher bias existed. However, I used specific strategies to minimize this potential bias. One of the strategies that I used was adopting a stance of neutrality by

remaining loyal to the data. Another strategy that I used was reflexivity by recording decisions and reflections that I made during the data collection and analysis process in a researcher's journal. In addition, using the strategy of member checks, I asked participants to review the research results for their credibility. Two of the three participants responded to my request to review the research findings and stated that they believed the findings were credible. Therefore, I addressed this limitation of possible bias by analyzing the data with openness to new conclusions related to Tier 2 reading assessments and instruction.

The third limitation was related to the data collection process. Because I was a single researcher with limited time and resources, I interviewed each participant only once, and I conducted only one observation of an instructional lesson for each teacher whom I interviewed. Therefore, the richness of the findings from these data sources might be limited. To partially address this limitation, I collected the following data from other sources, including district and school handbooks that included information about how teachers and parents could meet the learning needs of at-risk students, reading standards for students in Grades 1-3, progress monitoring guidelines for Tier 1 and 2 reading interventions, and state and district grade level group assessment results in reading.

Recommendations for Research

The recommendations for research are related to the findings or results of this study. The first recommendation is that additional exploratory research needs to be

conducted about the types of universal screening that teachers currently use to determine student placement in Tier 2 small group reading instruction. Research could be conducted at the district, state, or regional levels. This research is needed to understand the types of instruments that teachers use for universal screening in order to identify at-risk students in reading. This research is also needed to further understand how educators use the data gathered from universal screenings to inform the types of instruction that students need in Tier 1 and Tier 2 reading interventions.

The second recommendation is to conduct other case studies using the same research questions, because the RTI model used in each school district is designed to match the learning needs of the students in that district. Similar case studies could be conducted to explore the relationship between universal screening and progress monitoring and to explore documents and archival records related to the RTI model.

The third recommendation is that more research needs to be conducted about the types of scaffolding strategies that teachers use during Tier 2 reading instruction. A research study that includes multiple observations of Tier 2 reading instruction at each grade level may provide a richer picture of the types of instructional strategies that teachers use during the contingency, fading, and transfer of responsibility stages of scaffolding. Regarding contingency, researchers might explore how teachers find the zone of proximal development for students in order to provide them with appropriate scaffolds during the contingency stage. Researchers might also explore the types of instructional strategies teachers use to increase student participation in the instructional

lesson. In addition, researchers might explore the strategies that teachers use to improve student retention of letters, phonemes, and words. Regarding fading, researchers might examine instructor and student roles and how they change during the fading stage of scaffolding. Regarding transfer of responsibility, researchers might examine the correlation between the contingency stage and transfer of responsibility when students are given tasks for independent practice.

The fourth recommendation is that more research needs to be conducted about the relationship between the types of strategies that teachers use during intervention instruction and teacher characteristics, such as years of experience, educational level, and types of professional development. Researchers could use a mixed-methods design that includes quantitative data such student achievement in reading and qualitative data such as teacher interviews, instructional observations, and related documents.

Implications for Social Change

The implications for social change for this study are related to individuals, families, school districts, and society. At the individual level, this study may contribute to positive social change by providing teachers with a deeper understanding about how to provide Tier 2 interventions for students in Grades 1-3 who are identified as at-risk in reading, particularly in relation to the classroom assessment data that they could use to determine individual student placement and small group instruction, the types of strategies that they could use during the scaffolding process, and how they could monitor progress in reading for these students.

This study may also contribute to positive social change in relation to families that include children at-risk in reading. The results of this study can provide information to these parents about how Tier 1 and Tier 2 interventions in the RTI model might be structured to provide better learning opportunities for their children. The results of this study may also inform parents of the instructional strategies that they could use to provide better support at home for their children who are struggling to learn to read. Parents could also use the findings from this study to collaborate with teachers in relation to the type of reading instruction that may be best for their children.

This study may contribute to positive social change for public school districts. This research study makes an original contribution to research on RTI implementation in public school settings, because more research is needed about how teachers use assessments and instruction in Tier 2 interventions for students in Grades 1-3 who are identified as at-risk in reading, particularly in relation to the classroom assessment data that they use to determine the instruction students should receive, the scaffolding process that they use to provide this intervention instruction, and how they monitor student progress. This study may also support professional practice in reading instruction because educators could use the findings of this study to develop a better understanding of the types of professional development that they may need to improve teaching and learning in relation to Tier 2 reading interventions.

Finally, this study may contribute to positive social change for society because it advances knowledge about how to improve intervention instruction for students at-risk in

reading, which could create a more literate society. Nearly every aspect of society includes the act of reading. Literate individuals lead more independent and successful lives. Literate individuals also strengthen society because they support the education process.

Conclusion

One of the goals of this study was to explore the RTI model in terms of how teachers use assessments and instruction in Tier 2 interventions to improve the reading proficiency of at-risk students in Grades 1-3 in order to close the reading achievement gap for these students. The results of this study indicate that the RTI model can be effective in helping teachers identify students at-risk in reading and structure interventions for these students, provided that the RTI model is implemented with fidelity. The results of this study also emphasize the importance of on-going professional development that teachers need to implement and maintain an effective RTI model. This professional development should include training in a scaffolding process that includes the constructs of contingency, fading, and transfer of responsibility. Vygotsky (1934/2002) emphasized the importance of teaching students at their zone of proximal development, which is dependent on the internal mechanisms that students have developed. Vygotsky believed that students develop different internal mechanisms that have evolved from their genetic makeup and their environment. Students who lack these internal mechanisms necessary to complete reading tasks need assistance or scaffolding from their teachers. Vygotsky believed that teachers can provide these scaffolds by first

determining the zone of proximal development for students. Teachers can also use student performance data to assist them in providing effective instruction or scaffolds for students at-risk in reading. Most importantly, teachers need to constantly adjust their instructional scaffolding in order to help at-risk students develop internal mechanisms to master reading skills. When students master these skills, they become independent readers and literate members of society.

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Appendix A: District Letter of Cooperation

Jennifer S. Ray
[address redacted]
[telephone number redacted]
[email address redacted]

Fall, 2015

Dear Jennifer Ray,

Based on my review of your research proposal, I give permission for you to conduct the study titled *Tier 2 Interventions for Students in Grades 1-3 Identified as At Risk for Failure in Reading* in the Enterprise Elementary School District. As part of this study, I authorize you to recruit and interview one teacher at Grades 1, 2, and 3 for each research site. I also authorize you to observe a Tier 2 intervention lesson for each interviewed teacher and collect related documents, such as the RTI plan and implementation guidelines for each school site. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include helping you schedule a private conference room at each school for the individual interviews that you will conduct during non-instructional hours. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,

Superintendent
Elementary School District
[telephone number redacted]
[email address redacted]

Appendix B: School Letter of Cooperation

Jennifer S. Ray
address redacted
telephone number redacted
email address redacted

Fall, 2015

Dear Jennifer Ray,

Based on my review of your research proposal, I give permission for you to conduct the study titled *Tier 2 Interventions for Students in Grades 1-3 Identified as At Risk for Failure in Reading* in Mistletoe Elementary School. As part of this study, I authorize you to recruit and interview one teacher at Grades 1, 2, and 3 at this research site. I also authorize you to observe a Tier 2 intervention lesson of each interviewed teacher and collect related documents, such as the RTI plan and implementation guidelines for each school site. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include helping you schedule a private conference room at each school for the individual interviews that you will conduct during non-instructional hours. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Please provide me with a copy of the research findings when they are complete.

Sincerely,

Principal
Elementary School
telephone number redacted
email address redacted

Appendix C: Interview Guide

Time of Interview:

Date:

Place:

Participant:

Introduction: Hello! My name is Jennifer Ray. Thank you for agreeing to participate in this research study about how teachers in Grades 1-3 scaffold or assist assessment and instruction in Tier 2 interventions for students at-risk for failure in reading. Please note that I will keep your responses confidential and that I will use pseudonyms to protect your identity when I present the results of this study. As you know from the consent form, I will also be audio recording your responses in addition to taking some notes during the interview. The interview includes nine questions that should take you approximately 30 minutes to answer. Do you have any questions before I begin the interview?

1. Please describe the response to intervention (RTI) model or process that you use at this school for students at-risk for reading failure.
2. Please describe the reading curriculum that you use in your classroom for all students.
3. How do you determine student placement in Tier 1 and Tier 2 reading interventions in your classroom?
4. How do you use diagnostic assessments and progress monitoring data to inform your instruction in Tier 2 reading interventions?
5. What types of curricular materials do you use in Tier 2 interventions?
6. How do you provide instruction for students in Tier 2 reading interventions?
7. Please describe some specific strategies that you use to scaffold instruction during Tier 2 intervention. (Probing question: Could you provide some specific examples?)

8. How do you monitor student progress in Tier 2 reading interventions?
9. What are some of the challenges that you face in providing Tier 1 and Tier 2 reading interventions for students at-risk for failure in reading?

Do you have any other information that you would like to add?

Closure: Thank you for participating in this interview. You have also agreed to allow me to observe a Tier 2 reading intervention lesson at _____ on _____at _____. In addition, after I have completed collecting data for this study, I will email you the tentative findings of this study so that you can review them for their credibility. That review process should take about 15 minutes. Do you have any questions for me at this time?

Definitions

Scaffolding: A supportive structure that provides the appropriate mechanisms for a student to complete a task that is beyond their unassisted abilities (Clark & Graves, 2005).

Scaffolding Process: The scaffolding process includes the components of contingency, fading, and transfer of responsibility, which are completed in the stated order. Contingency is the responsiveness, which is the tailored, adjusted, and differentiated support that a teacher gives to a student during instruction. Fading is the gradual withdrawal of the scaffolding or contingency support. Transfer of responsibility is the completion of the fading stage, when students can independently process the task (van de Pol, Volman, & Beishuizen, 2010).

Appendix D: Observation Data Collection Form

Criterion 1: Intervention Setting

Use of space
Print and non-print resources
Technology resources

Criterion 2: Intervention Participants

Students
Adults
Gender

Criterion 3: Intervention Lesson

Objective
Data/modeling/checking for understanding
Guided practice
Independent practice

Criterion 4: Scaffolding Teacher-Student Interactions

Contingency
Fading
Transfer of responsibility

Criterion 5: Student Engagement

Conversation between students and teacher
Conversation among students

Criterion 6: Researcher Behavior

Location in the room
Teacher and student awareness of researcher
Interaction with students

Appendix E: Alignment of Interview Questions to Research Questions

Central Research Question

How do teachers use assessments and instruction in Tier 2 interventions for students in Grades 1-3 who are identified as at risk for failure in reading?

Interview questions:

- Please describe the response to intervention (RTI) model or process that you use at this school for students at risk for reading deficits.
- How do you use diagnostic assessments and progress monitoring data to inform your instruction in Tier 2 reading interventions?
- What types of curricular materials do you use in Tier 2 interventions?
- How do you provide instruction for students in Tier 2 reading interventions?
- How do you monitor student progress in Tier 2 reading interventions?
- What are some of the challenges that you face in providing Tier 1 and Tier 2 reading interventions for students at risk for failure in reading?

Related Research Questions

Question 1: How do teachers use diagnostic assessments to determine student placement in Tier 2 reading interventions?

Interview questions:

- Please describe the response to intervention (RTI) model or process that you use at this school for students at risk for reading deficits.

- How do you determine student placement in Tier 1 and Tier 2 reading interventions in your classroom?
- How do you use diagnostic assessments and progress monitoring data to inform your instruction in Tier 2 reading interventions?

Question 2: How do teachers use diagnostic assessments to inform their instruction in Tier 2 reading interventions?

Interview questions:

- Please describe the response to intervention (RTI) model or process that you use at this school for students at risk for reading deficits.
- How do you use diagnostic assessments and progress monitoring data to inform your instruction in Tier 2 reading interventions?
- Please describe the reading curriculum that you use in your classroom for all students.
- What types of curricular materials do you use in Tier 2 interventions?

Question 3: How do teachers use the scaffolding process to provide instruction for students in Tier 2 reading interventions?

Interview Questions:

- Please describe the response to intervention (RTI) model or process that you use at this school for students at risk for reading deficits.
- Please describe the reading curriculum that you use in your classroom for all students.

- What types of curricular materials do you use in Tier 2 interventions?
- How do you provide instruction for students in Tier 2 reading interventions?
- Please describe some specific strategies that you use to scaffold instruction during Tier 2 intervention. (Probing question: Could you provide some specific examples?)

Question 4: How do teachers monitor student progress in Tier 2 reading interventions?

Interview questions:

- Please describe the response to intervention (RTI) model or process that you use at this school for students at risk for reading deficits.
- How do you use diagnostic assessments and progress monitoring data to inform your instruction in Tier 2 reading interventions?
- How do you monitor student progress in Tier 2 reading interventions

Appendix F: Common Core Standards in Reading, Grades 1-3

(State Board of Education, 2013)

Reading Standards for Literature - Grades 1-3

Standard	Grade 1	Grade 2	Grade 3
Key ideas and details, 1-3	1. Ask and answer questions about key details in a text.	1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.	1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
	2. Retell stories, including key details, and demonstrate understanding of their central message or lesson.	2. Recount stories, including fables and folktales from diverse cultures, and determine their central message, lesson, or moral.	2. Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through key details in the text.
	3. Describe characters, settings, and major events in a story, using key details.	3. Describe how characters in a story respond to major events and challenges.	3. Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
Craft and Structure, 4-6	4. Identify words and phrases in stories or poems that suggest feelings or appeal to the senses. **(See grade 1 Language standards 4–6 for additional expectations.) CA**	4. Describe how words and phrases (e.g., regular beats, alliteration, rhymes, repeated lines) supply rhythm and meaning in a story, poem, or song. **(See grade 2 Language standards 4–6 for additional expectations.) CA**	4. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language. **(See grade 3 Language standards 4–6 for additional expectations.) CA**
	5. Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.	5. Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action.	5. Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.

(table continues)

Standard	Grade 1	Grade 2	Grade 3
Craft and Structure, 4-6	6. Identify who is telling the story at various points in a text.	6. Acknowledge differences in the points of view of characters, including by speaking in a different voice for each character when reading dialogue aloud.	6. Distinguish their own point of view from that of the narrator or those of the characters.
Integration of knowledge and ideas, 7-9	7. Use illustrations and details in a story to describe its characters, setting, or events.	7. Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.	7. Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).
	8. (Not applicable to literature)	8. (Not applicable to literature)	8. (Not applicable to literature)
	9. Compare and contrast the adventures and experiences of characters in stories.	9. Compare and contrast two or more versions of the same story (e.g., Cinderella stories) by different authors or from different cultures.	9. Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).
Range of reading and level of text complexity, 10	10. With prompting and support, read prose and poetry of appropriate complexity for grade. **a. Activate prior knowledge related to the information and events in a text.**	10. By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2–3 text complexity band independently and proficient	10. By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading Standards for Informational Text - Grades 1-3

Standard	Grade 1	Grade 2	Grade 3
Key ideas and details, 1-3		1. Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.	1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
	1. Ask and answer questions about key details in a text.		
		2. Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.	2. Determine the main idea of a text; recount the key details and explain how they support the main idea.
	2. Identify the main topic and retell key details of a text.		
		3. Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.	3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
	3. Describe the connection between two individuals, events, ideas, or pieces of information in a text.		
Craft and Structure, 4-6		4. Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area. **(See grade 2 Language standards 4–6 for additional expectations.) CA**	4. Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area. **(See grade 3 Language standards 4–6 for additional expectations.) CA**
	4. Ask and answer questions to help determine or clarify the meaning of words and phrases in a text**. (See grade 1 Language standards 4–6 for additional expectations.)**		
		5. Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.	5. Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.
	5. Know and use various text **structures (e.g., sequence) and text** features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text. **CA**		

(table continues)

Standard	Grade 1	Grade 2	Grade 3
Craft and Structure, 4-6	6. Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.	6. Identify the main purpose of a text, including what the author wants to answer, explain, or describe.	6. Distinguish their own point of view from that of the author of a text.
Integration of knowledge and ideas, 7-9	7. Use the illustrations and details in a text to describe its key ideas.	7. Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text. (Not applicable to literature)	7. Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
	8. Identify the reasons an author gives to support points in a text.	8. Describe how reasons support specific points the author makes in a text.	8. Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/ third in a sequence).
	9. Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).	9. Compare and contrast the most important points presented by two texts on the same topic.	9. Compare and contrast the most important points and key details presented in two texts on the same topic.
Range of reading and level of text complexity, 10	10. With prompting and support, read informational texts appropriately complex for grade. **a. Activate prior knowledge related to the information and events in a text. CA** **b. Confirm predictions about what will happen next in a text. CA**	10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range	10. By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

Reading Standards for Foundational Skills - Grades 1-3

Standard	Grade 1	Grade 2	Grade 3
Print Concept	Demonstrate understanding of the organization and basic features of print. a. Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation).		
Phonological Awareness	Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Distinguish long from short vowel sounds in spoken single-syllable words. b. Orally produce single-syllable words by blending sounds (phonemes), including consonant blends. c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words. d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).		

(table continues)

Standard	Grade 1	Grade 2	Grade 3
Phonics and word recognition	Know and apply grade-level phonics and word analysis skills in decoding words **both in isolation and in text. CA** a. Know the spelling-sound correspondences for common consonant digraphs. b. Decode regularly spelled one-syllable words. c. Know final -e and common vowel team conventions for representing long vowel sounds. d. Use knowledge that every syllable must have a vowel sound to determine the number of syllables in a printed word. e. Decode two-syllable words following basic patterns by breaking the words into syllables. f. Read words with inflectional endings. g. Recognize and read grade-appropriate irregularly spelled words.	Know and apply grade-level phonics and word analysis skills in decoding words **both in isolation and in text. CA** a. Distinguish long and short vowels when reading regularly spelled one-syllable words. b. Know spelling-sound correspondences for additional common vowel teams. c. Decode regularly spelled two-syllable words with long vowels. d. Decode words with common prefixes and suffixes. e. Identify words with inconsistent but common spelling-sound correspondences. f. Recognize and read grade-appropriate irregularly spelled words	Know and apply grade-level phonics and word analysis skills in decoding words **both in isolation and in text. CA** a. Identify and know the meaning of the most common prefixes and derivational suffixes. b. Decode words with common Latin suffixes. c. Decode multisyllable words. d. Read grade-appropriate irregularly spelled words. Demonstrate understanding of

(table continues)

Standard	Grade 1	Grade 2	Grade 3
Fluency	Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.	Read with sufficient accuracy and fluency to support comprehension. a. Read on-level text with purpose and understanding. b. Read on-level text orally with accuracy, appropriate rate, and expression on successive readings. c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.