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Upper Elementary Teachers' Use of Pedagogical Content Knowledge With Nonfiction Reading Instruction

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Walden University
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Abstract

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MA, Texas A&M Commerce, 2002

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

After a shift in upper elementary reading instruction that emphasized complex learning using nonfiction text, Texas schools showed low reading comprehension scores among upper elementary students. The purpose of this exploratory single case study was to examine the pedagogical content knowledge of Texas upper elementary teachers who teach nonfiction reading comprehension strategies to at-risk students who do not qualify for special education services. The central research question focused on how teachers view their pedagogical content knowledge while instructing students. The conceptual framework for this study was a combined Shulman's (1986) pedagogical content knowledge model and Thomlinson's (2000) differentiated instruction learning model. Data sources included online questionnaires (N=161), open-ended scenario-based phone or Skype interviews (N=10), and public documents on reading professional development in the state of Texas. Findings from open coding and inductive analysis indicated that the paradigm shift from reading to learn to learning to read is a challenge in the upper elementary classroom, teachers are relying on inadequate professional development to develop their pedagogy and content knowledge, and teachers may be rescuing struggling students rather than differentiating them. Findings may help Texas educators make more informed decisions on pedagogy to promote expository reading comprehension among upper elementary at-risk students and to increase their opportunities for success.

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Acknowledgments

I have been blessed by not only God up above on this journey, but also by his angels here on Earth. Without these people, I truly do not believe I would have been able to achieve and learn as much as I have. Although the words being used are simple, please know that they are heart felt.

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Chapter 1

Introduction and Background

Since the late 1970s, research showed that teachers were not explicitly teaching reading comprehension strategies to their students. Durkin (1978), in an observational study of 16 Illinois school systems (Grades 3-6), noted that the time spent on reading comprehension strategies was less than 1% of instructional time. Since that time, little improvement in those practices appeared in the literature. For example, the RAND Reading Study Group (2002) reported that reading instruction in comprehension strategies was often minimal. Ness (2016a) found, after observing middle and high school classrooms for 2,400 minutes, that teachers spent only 82 minutes on teaching reading comprehension. Swanson et al. (2016) found after directly observing a total of 20 teachers in middle and high school with 7,208 minutes of direct observation time that no comprehension strategy instruction took place 73.7% of the time. As students moved through schooling, they received less and less comprehension instruction.

A shift in upper elementary education from learning to read with primarily narrative text to an emphasis on reading to learn with informational or expository text was complicated by a lack of explicit instruction of comprehension skills (Hebert, Bohaty, Nelson, & Brown, 2016; Kragler, Martin, & Schreier, 2015; Roberts & Norman, 2015; Wagner & Espin, 2015). This shift began in third grade and continued through secondary school with more emphasis on nonfiction. For students to be efficient in reading and comprehending, teachers needed to instruct students on a range of complex strategies or skills that were used with discretion while reading (Keene & Zimmerman,

2013; Roberts & Norman, 2015; Vaughn, Zumeta, Wanzek, Cook, & Klingner, 2014). For example, instruction for students focused on how to analyze ideas, read nonfiction aides, synthesize text, and make general meaning (Guthrie & Klauda, 2014). Teachers also needed to have taught students how to access background knowledge and inferencing, generate questions, visualizing text, monitor their understandings, and discern essential information to summarize their learning (Burns, Maki, Karich, & Coolong-Chaffin, 2017; De Koning & Van der Schoot, 2013; National Reading Panel, 2000; Roberts & Norman, 2015; Texas Education Agency, 2002). Effective and efficient instruction required teachers to define, describe, and model the strategy used, as well as monitor and help struggling students to independently utilize a strategy successfully (Burns et al., 2017; Varga, 2017). To be an efficient teacher in nonfiction reading comprehension required knowledge of content, pedagogy, and individual students.

Upper elementary reading instruction began to emphasize all subjects, primarily through nonfiction text for complex learning. The lack of exposure and teaching of nonfiction text reading comprehension strategies led to students struggling to master skills associated with comprehending and may have been connected to low reading achievement scores (Cirino et al., 2013; Fisher & Frey, 2015; Hughes & Parker-Katz, 2013; Massey, 2014; Simmons et al., 2014; Stead, 2014). Researchers indicated that the difficulties with complex content could only be remediated through teacher instruction of comprehension skill strategies (Chauvin & Theodore, 2015; Kragler et al., 2015; Mercado & Cole, 2014; Roberts & Norman, 2015; Wagner & Espin, 2015). The lack of instruction may have hindered students who struggle to comprehend.

Students known as late-emerging reading difficulty (LERD) students did not begin to show difficulties until the shift happened in upper elementary (Etmanskie, Partanen, & Siegel, 2016; Koriakin & Kaufman, 2017). Those at-risk LERD students had not indicated problems with reading before third grade and continued to show excellent reading fluency. The complication that became evident during and after the third grade was in the comprehension of what they were reading. LERD readers began to show specific reading comprehension difficulties connected with the complexity of the text (Spear-Swerling, 2016). If the students struggled to comprehend, then they also struggled to learn. Nationally and in Texas, there were indicators that students struggled with comprehension as early as third grade.

Much was known about at-risk reading instruction (Bohaty, Hebert, Nelson, & Brown, 2015; Hebert et al., 2016; Suggate, 2016), K-3 expository instruction (Santaro, Baker, Fien, Smith, & Chard, 2016; Kragler et al., 2015; Williams et al., 2014), and differentiated instruction (Alexander & Fox, 2013; Griffith, 2017; Tomlinson, 2000, 2013, 2014). Little was known, however, about teachers in upper elementary and their at-risk expository reading comprehension instruction or how pedagogical content knowledge influences preparedness, instruction, and differentiation. The current study was needed to explore what happened in elementary classrooms regarding upper elementary Texas teachers' pedagogical content knowledge levels when giving reading instruction in nonfiction comprehension strategies. Findings may be used to meet the needs of students through differentiated instruction and to understand why students in Texas were struggling with nonfiction reading comprehension. This chapter presents the

research problem, study purpose, and research questions. The framework, nature of the study, and assumptions are also detailed. The final areas covered are the scope and delimitations, limitations, and significance of the study.

Problem Statement

A concern in upper elementary Texas schools was low performance in reading comprehension scores at the fourth grade level. Those scores indicated that at least 30% of students in upper elementary grades in Texas struggled to demonstrate the minimum skills comprehension required to be successful at grade-level learning, indicating issues with instruction in the classroom (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2015a; Texas Education Agency, 2013, 2014, 2015b, 2016, 2017a, 2018a). A possible cause of this problem was the lack of upper elementary teachers' pedagogical content knowledge of nonfiction reading instruction and strategies that led to little direct or no explicit instruction to students (Clarke, Paul, Smith, Snowling, & Hulme, 2017; Droop, van Elsacker, Voeten, & Verhoeven, 2016; Griffith, Bauml, & Quebec-Fuentes, 2016; Sibberson & Szymusiak, 2016). If this problem was not investigated, it might have led to a larger number of LERD students identified as being at-risk for academic and life failure (Koriakin & Kaufman, 2017; Ricketts, Sperring, & Nation, 2014; Ritchey, Palombo, Silverman, & Speece, 2017). Little was known about teachers in upper elementary and their at-risk expository reading comprehension instruction or how pedagogical content knowledge influenced preparedness, instruction, and differentiation. This study addressed the need for further understanding of upper elementary Texas teachers' pedagogical content knowledge when

giving reading instruction in nonfiction comprehension strategies and how that knowledge was being used to meet the needs of students through differentiated education.

Nationally

Nationally, the indicators of reading achievement assessment rates showed students were struggling with reading comprehension (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2013a, 2016, 2017). Although assessment scores were only symptoms of the problem, they were the primary way of measuring mastery of reading comprehension. The U.S. Department of Education National Center for Educational Statistics (2017) reported that 40% of fourth graders performed at a below basic achievement level on the reading National Assessment of Educational Progress (NAEP), which ranked Texas as 45th in the nation. This score was an increase of 4% from 2015, when Texas ranked 40th in the nation (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2015a). This percentage was only a 1% change from two year's prior (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2013b). Bandeira de Mello, Bohrnstedt, Blankenship, and Sherman (2015) synthesized the NAEP report longitudinally and found that only 36% of fourth graders were academically prepared for grade-level material and had shown little to no change in reading progress since 2009. Since tracking began 16 years ago, on average 3 out of every 10 students at the fourth-grade level were not able to comprehend grade-level material (Bandeira de Mello et al., 2015).

Locally

A continued increase in the number of failures over time was seen and reflected in the national findings when results were reviewed from the State of Texas Assessment of Academic Readiness (STAAR) Test. An average of 26% of fourth-grade students on the STAAR Test from 2013-2018 were consistently unable to perform and meet grade-level expectations (Texas Education Agency, 2013, 2014, 2015b, 2016, 2017a, 2018a). The percentages were similar for third grade and fifth grade. Over the same time period, 23% of third graders and 25% of fifth graders were unable to meet grade-level reading comprehension expectations (Texas Education Agency, 2013, 2014, 2015b, 2016, 2017a, 2018a). This percentage indicated that upper elementary teachers in Texas elementary schools were not reaching nearly a third of all students with their reading comprehension instruction.

Purpose of the Study

The purpose of this exploratory single case study was to gain insight into the pedagogical content knowledge of Texas upper elementary teachers who taught nonfiction reading comprehension strategies to at-risk students who did not qualify for special education services. I investigated how those teachers made sense of their experiences in teaching nonfiction reading comprehension (see Merriam, 2009). Further, I sought a better understanding of how teachers used their pedagogical content knowledge of students to differentiate their instruction to meet students' needs. The single case design allowed me to explore evidence from the Texas upper elementary teachers for differences within each case for robust analysis (see Yin, 2014). Using a

single case was appropriate to provide an in-depth look at the teachers' self-reported perceptions and obtain a deeper understanding of their pedagogical content knowledge. A qualitative study offered opportunities to learn about those perceptions through an extensive description of self-reporting and an accompanying analysis and exploration of their reported teaching practices (see Denzin & Lincoln, 2013). I used three sources of data for this qualitative study: a questionnaire, open-ended scenario-based interviews, and public records on districts in Texas that participated in the state-offered reading instruction professional development (see Percy, Kostere, & Kostere, 2015).

The first two sources, the questionnaire and interviews, were used to explore the meaning of the participants' experiences. The third source, public records, was used to support the findings from the first two sources. The study results may inform educators, reading specialists, and state educators on the current standing and further needs that upper elementary teachers may have in nonfiction comprehension strategy instruction. The purpose of this study was to understand what factors may have affected the current nonfiction reading comprehension instruction in the classroom. Additionally, this study served to further the research on core reading instruction for upper elementary students struggling with reading (see Kent, Wanzek, & Al Otaiba, 2017).

Research Questions

The central research question was the following: How did upper elementary teachers in Texas describe their pedagogical content knowledge for nonfiction reading comprehension strategies instruction? Three subquestions were also used to guide the study:

1. What did 3rd- through 5th-grade teachers report about their pedagogical content knowledge in teaching expository text comprehension to upper elementary students?
2. How did upper elementary teachers report developing their content knowledge and skills to instruct expository text comprehension?
3. What differentiation approaches did upper elementary teachers implement to their instruction to meet the needs of at-risk, late-emerging reading difficulties students?

Conceptual Framework

A combination of Shulman's (1986) pedagogical content knowledge (PCK) model and Tomlinson's (2000) differentiated instruction (DI) learning model provided the framework for this study. The combined models acted as the foundation for effective teaching practices for this study (see Adoniou, 2015; Carney & Indrisano, 2013; Shulman, 1986; Tomlinson, 2000). PCK and DI provided a lens to analyze how teachers' content knowledge of nonfiction reading, their personal insight on teaching, and their responsiveness to the needs of their students shaped their instruction in the classroom (see Birdsall, 2015). The teacher's knowledge of the student, content, and pedagogical knowledge served as the foundation for the adjustment to instruction that the teacher implemented (Alexander & Fox, 2013; Griffith, 2017; Tomlinson, 2013, 2014).

Pedagogical Content Knowledge

PCK includes the combined cognition of content, instruction, and students that teachers use when teaching material to students (Shulman, 1986). In the PCK model,

there are many types of knowledge that a classroom teacher acquires to be effective and efficient (Behrmann & Souvignire, 2013; Griffith, Bauml, & Barksdale, 2015; Shing, Saat, & Loke, 2015; Shulman, 1986). A teacher's understanding of facts, concepts, principles, methodology, and generalizations is foundational to his or her pedagogical thinking and decision-making in the classroom. The PCK lens offered a framework for analyzing a teacher's ways of facilitating expository comprehension pedagogy for at-risk students in the upper elementary level. A comprehensive description of PCK is provided in Chapter 2.

Differentiated Instruction

DI includes the changes that result from the teacher's knowledge of his or her teaching and assessments when attempting to provide an individualized avenue of learning to meet students' needs (Tomlinson, 2000). DI focuses on teachers being responsive in teaching and meeting the requirements of the content and their students (Puzio, Newcomer, & Goff, 2015; Tomlinson, 2013). To differentiate effectively, a teacher must know his or her content and students well enough to adjust instruction to meet their needs. A comprehensive description of DI is provided in in Chapter 2.

Nature of the Study

I used a quantitative inputted qualitative (quan → QUAL) format using multiple sources including a questionnaire with an interview follow-up (see Morgan, 2014). All 3rd- through 5th-grade teachers in Texas were asked to complete an electronic questionnaire about their pedagogical content knowledge of nonfiction reading and instructional strategies. The questionnaire included a question asking whether the

participant was willing to have a follow-up interview. I then took a stratified random sample of 12 participants who consented to participate in open-ended scenario-based interviews.

Multiple forms of analysis were used to triangulate the data and establish case study validity. The questionnaire results analysis indicated the characteristics of the upper elementary teaching force and the perceptions of pedagogical beliefs, preparedness, and instruction to employ effective instructional techniques of nonfiction comprehension. The 12 open-ended scenario-based interviews were analyzed by looking at what methods were used to differentiate (see Firmender, Reis, & Sweeny, 2013; Long, 2014; McCarthy, 2014; Tomlinson, 2013, 2014). Public documents detailed state-funded training and which districts used professional development for program contents related to nonfiction reading comprehension instruction, differentiated instruction, or working with at-risk students. All three analyses were used to describe how upper elementary teachers changed or modified instruction to accommodate at-risk, LERD students when teaching expository reading comprehension strategies.

The choice of a single case, exploratory design for this study was purposeful. I did not seek to examine possible correlations between variables, which would have required a quantitative design, and instead I focused on using narrative inquiry to understand the phenomenon of upper elementary teachers' nonfiction reading instruction (see Frey, 2018). Grounded theory was not chosen because I did not seek to develop a new theory (see Frey, 2018). Ethnography was rejected because upper elementary teachers were not one culture-sharing group and this study was not focused on establishing a characteristic

pattern of behaviors based on the data (see Frey, 2018). Finally, due to time constraints and the large sample of upper elementary school teachers in the state of Texas, the best choice for this study was a single case versus multiple cases.

Definitions

Definitions of key terms were necessary for clarity throughout this study.

At-risk: A term describing students who are not meeting basic proficiency levels in reading and have a higher prospect of academic failure or withdrawing from school (Great Schools Partnership, 2014).

Differentiated instruction (DI): An educational practice used to rectify struggles of students through adjustments in teaching with content delivery, classroom processes, or projects (Tomlinson, 2014).

Late-emerging reading difficulties (LERD) students: Students who begin to have comprehension difficulties with reading at the upper elementary level (Etmanskie et al., 2016; Koriakin & Kaufman, 2017)

Nonfiction reading comprehension strategies: Techniques to trigger students' prior knowledge and inferencing, generate text questions, visualize, monitor students' understanding, and determine essential information to summarize what they have learned to comprehend nonfiction text (Burns et al., 2017; De Koning & Van der Schoot, 2013; J. S. Jones, Conradi, & Amendum, 2016; National Reading Panel, 2000; Roberts & Norman, 2015; Texas Education Agency, 2002).

Pedagogical Content Knowledge (PCK): The merging of teaching content knowledge and teacher pedagogy into a perception of how an adaptation of instruction helps struggling learners (Shulman, 1987).

Assumptions

Assumptions are the elements, factors, and conditions of the study that are understood to be true (Marshall & Rossman, 2016). For this study, I assumed that all participants completing the questionnaire and interview would have answered truthfully given the steps I took to keep their confidentiality and anonymity. The next assumption was that upper elementary teachers would give some intentional, effective reading instruction to the students in their classroom. I also assumed that participants would be able to articulate the techniques they used to adjust instruction to meet the needs of at-risk LERD students. Those assumptions were in alignment with using a single case study with the intended population sample of upper elementary third- through fifth-grade teachers and the questionnaire and interview instruments.

Scope and Delimitations

Starting in third grade, there is an emphasis on using what was read to promote academic success. With this emphasis comes an increase in nonfiction and text complexity that students must master to attain academic success. In reviewing the longitudinal reading data from 2013 to 2017 of the NAEP and Texas STAAR results for upper elementary, I concluded that a third of students were not meeting necessary reading competencies. A higher percentage of failures was identified when looking at the at-risk population labeled by the state and who were targeted for more intervention during the

school year. Those findings suggested that an exploration of current nonfictional reading instructional practices in the state was warranted to understand the continued struggles of students mastering basic comprehension competencies. The PCK model allowed me to gather information on Texas upper elementary teachers' educational and teaching background, content knowledge on teaching nonfiction reading comprehension, and methods of meeting student needs, especially those labeled at-risk, during instruction. The results of this study may aid scholars, teachers, and curriculum planners in the state of Texas in making informed decisions on what is needed, or needs to be adjusted, in teacher pedagogy to promote the expository comprehension skills of upper elementary at-risk students. The results of this study may create positive social change when educators apply the results in their efforts to develop and improve students' skills in comprehension, thereby increasing students' opportunities for success.

I reviewed and analyzed the pedagogical content knowledge of the teachers regarding nonfiction reading comprehension strategies and instruction. The scope was also limited to upper elementary third- through fifth-grade teachers in Texas who taught nonfiction reading comprehension strategies to at-risk LERD students. The limited scope allowed me to focus on understanding a population of teachers who struggled to meet students' comprehension needs while instructing and engaging in complex texts and reading for academic success.

Findings may be transferable to other states, districts, or teachers struggling with upper elementary students' nonfiction reading comprehension or an identified at-risk population struggling with nonfiction reading, as Texas was not alone with those

concerns. Findings may not be transferable to younger grades because students are in the reading-to-learn instructional phase with an emphasis on narrative or fiction. This study did not include a program evaluation. All information was self-reported, and the focus was on the teacher's experiences rather than the implementation of a program. I did not gather evidence to prove that PCK existed; rather I used a PCK lens to frame teachers' reported experiences. To help with transferability, I used an interview protocol to mitigate researcher bias. I also asked participants to review their statements for accuracy.

Limitations

Limitations of this case study included the areas of transferability and dependability. A large sample size does not guarantee generalization to a population (Yin, 2016). Because this study was qualitative and included a population confined to the state of Texas, the level of saturation was not determined until the results were analyzed (see Boddy, 2016). The open-ended scenario-based interviews included a random stratified sample of 10 participants (three from third grade, three from fourth grade, and four from fifth grade) due to the limited time frame for collection and analysis of data. The random stratified sampling of participants meant that the case was limited to experiences related to the phenomenon.

Additionally, this study was limited in dependability by the reliance on self-reported data. Self-reported data cannot be independently verified and are considered a threat to validity as responses are to be taken at face value with the understanding that biases like selective memory, attribution, exaggeration, or positive emphasis exist (Frey, 2018). Another validity threat from the questionnaire was no further information could be

given beyond the questions on the page (Frey, 2018). If the data analyzed reflected those threats to validity, it was noted in the results and conclusion section.

Significance

This exploratory case study provided support for policymakers, educators, and researchers in the state of Texas who are looking for ways to improve nonfiction reading comprehension for upper elementary students. The study added to the existing literature on how teachers in third, fourth, and fifth grade teach nonfiction reading comprehension strategies and how they differentiate to mitigate the struggles of at-risk LERD students. The study may help scholars, teachers, and curriculum planners in the state of Texas make informed decisions on what is needed, or needs to be adjusted, in teacher pedagogy to improve expository comprehension skills of upper elementary at-risk students. Findings may create positive social change when educators apply the results to their efforts to develop and improve students' skills in comprehension, thereby increasing students opportunities for success.

Summary

In this quantitative-input qualitative case study, I scrutinized the perceptions of third- through fifth-grade teachers in Texas regarding their pedagogical content knowledge in teaching nonfiction reading comprehension strategies. I examined how teachers used their pedagogical content knowledge to differentiate instruction strategies to help at-risk LERD students who were not in special education. By focusing on the development and foundation of the teachers' self-reported capabilities in teaching nonfiction reading comprehension, I hoped to identify existing needs in the teaching of

content and to provide insight into factors that contribute to low performance on state and national assessments in reading. In Chapter 2, I review the literature related to the research problem.

Chapter 2

Introduction

There was a concern in upper elementary Texas schools based on the low performance in reading comprehension scores from 2013-2018. Those scores indicated that at least a third of students in third, fourth, and fifth grade did not possess the minimum skills necessary to be successful at grade-level learning, suggesting issues with instruction in the classroom (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2013b, 2015b; Texas Education Agency, 2013, 2014, 2015b, 2016, 2017a, 2018a). A possible cause of this problem was the lack of upper elementary teachers' pedagogical content knowledge level of nonfiction reading instruction and skills, which led to little direct or explicit instruction to students (Droop et al., 2016; Griffith et al., 2016; Sibberson & Szymusiak, 2016). Chauvin and Theodore (2015) stated that "many students still struggle to master basic literacy skills, and many teachers in discipline-specific courses lack the knowledge and expertise to help students interpret the complex texts associated with each distinct discipline" (p. 1). This lack of explicit teaching of reading comprehension skills was complicated by a shift from learning to read with primarily narrative text to reading to learn with informational or expository text (Hebert et al., 2016; Kragler et al., 2015; Roberts & Norman, 2015; Wagner & Espin, 2015). The lack of exposure and teachings of nonfiction text reading comprehension strategies led to students struggling to master skills associated with comprehension information and may have been connected to the reported low reading achievement scores (Cirino et al., 2013; Fisher & Frey, 2015; Hughes & Parker-Katz,

2013; Massey, 2014; Simmons et al., 2014; Stead, 2014). Not investigating this problem might have led to a more significant number of LERD students becoming at-risk for academic and life failure (Koriakin & Kaufman, 2017; Ricketts et al., 2014; Ritchey et al., 2017). The purpose of this exploratory single case study was to gain a deeper understanding of the pedagogical content knowledge of Texas upper elementary teachers who taught nonfiction reading comprehension strategies to at-risk students who did not qualify for special education services.

The literature review for this case study consists of multiple sections. In the first section, I describe the study's conceptual framework, which was a combination of Shulman's (1986) pedagogical content knowledge (PCK) and Tomlinson's (2000) differentiated instruction (DI). In the second section, I synthesize the literature on the knowledge needed for nonfiction reading comprehension pedagogy. In the third part of the review, I document the needs of at-risk learners when being taught reading comprehension strategies.

Literature Search Strategy

To conduct this literature review, I used peer-reviewed literature published within the last 5 years. I obtained access to those studies by searching the Walden Library databases of Academic Search Complete, Education Source, ERIC, Primary Search, Teacher Reference Center, and SocINDEX with Full Text. Key words included *pedagogical content knowledge*, *elementary*, *reading*, *readers*, *instruction*, *inferencing*, *question generation*, *visualizing text*, *text structure and organization*, *monitoring understanding*, *summarizing*, *poor comprehenders*, *struggling readers*, *late-emerging*

reading difficulties, *at-risk*, and *differentiation*. A review of the current studies revealed research on reading pedagogical content knowledge and its components; however, many of the studies were limited to kindergarten through third grade and had not addressed late-emerging reading difficulties. My review of current studies showed limited research on reading PCK of upper elementary teachers.

Conceptual Framework

A teacher's PCK of nonfiction reading comprehension instruction includes content and pedagogy knowledge and awareness of students' needs. Differentiation occurs when a teacher uses PCK knowledge in his or her practice to tailor instruction for a specific population of students (Tomlinson, 2014). In this case study, I used the PCK lens to explore the knowledge in Texas upper elementary teachers who taught nonfiction reading comprehension. Through the use of scenario-based questions, I asked teachers to describe their action of differentiation in practice. Then I used public information on reading professional development to triangulate the answers given by the participants. Those multiple data sources were combined to describe how nonfiction reading comprehension strategies were taught at the upper elementary level, what the pedagogical content knowledge background and preparedness of the teachers in his or her instruction was, and how reading instruction was differentiated to help struggling at-risk students find success in comprehension and academics.

Pedagogical Content Knowledge

Shulman (1986), in response to *A Nation At Risk* report (United States National Commission on Excellence in Education Department of Education, 1983), formulated a

teacher instructional framework called the pedagogical content knowledge (PCK) model to define what teachers need to be knowledgeable about to be considered effective teachers. Shulman found there was a shortage of studies that addressed the knowledge necessary for proficient and effective teaching. Shulman defined effectiveness by looking at a teacher's use of curriculum and content, the practical application of teaching, and the specialized knowledge that helps students learn. Teachers, according to Shulman, were viewed as professionals because teaching required not only the understanding of the subject taught, but also of pedagogy and specialized curricular understandings to efficiently teach. George (2011) found that when specialized knowledge was applied to instruction beyond basic knowledge, as in the case of his reworked adolescent literature college course, then the assessment results and engagement of students were higher. In the PCK model, there are many types of knowledge a classroom teacher uses to be effective and efficient (Behrmann & Souvignire, 2013; Griffith et al., 2015; Shing et al., 2015; Shulman, 1986). The combined expertise acts as the foundation for effective teaching practices (Adoniou, 2015; Carney & Indrisano, 2013; Shulman, 1986). The teacher's knowledge has the most influence on student success.

There was a dearth of knowledge about PCK in reading comprehension as reading was not considered a discipline by itself, and elementary teachers were considered knowledgeable about reading instruction because they were competent readers (International Reading Association, 2000; National Reading Panel, 2000). This case study included an in-depth examination of upper elementary teachers' PCK when teaching nonfiction reading comprehension in their classroom. The research findings

were used to determine the impact on the teaching effectiveness and instruction of nonfiction reading comprehension to upper elementary students.

Teacher knowledge in the PCK model. Carney and Indrisano (2013) found that a teacher's knowledge of the reading process and general understanding of instructional methods was necessary as the foundation of a learner's acquisition of knowledge in reading. This finding is particularly relevant in upper elementary levels where the emphasis shifts from learning to read to reading to learn. The teacher must have subject matter or content knowledge of the nonfiction material taught. Adoniou (2015) summed up this knowledge as knowing the "how," "why," and "what" of teaching (p. 103). A combination of knowledge possessed by the teacher determines his or her effectiveness in the classroom.

The complexity of the different types of PCK knowledge that teachers possess for effectiveness in their craft was reflected in the literature. Phelps (2009), through his use of scenarios with 105 participants (50 experienced teachers and 55 inexperienced teachers) and the Content Knowledge for Teaching Reading assessment, found that teachers' specialized knowledge of content, students, and teaching helped them be proficient at reading instruction. Lyon and Weiser (2009) concurred with Phelps's findings in their study by determining that it was the specificity of knowledge of how to teach complex content and the pedagogy subskills of reading through explicit and systematic instruction that reflected attention to student differences, leading to proficiency in teaching reading. Griffith et al. (2015) furthered the understanding of PCK in suggesting that the teachers used their pedagogical knowledge when making curricular

connections, focusing on comprehension, assessing background knowledge, teaching problem-solving strategies, and assessing for understanding. Morrison and Luttenegger (2015) found through a case study of a single teacher leading 10 kindergarten students in reading instruction that a successful teacher should be able to present information while simultaneously evaluating student learning and making decisions on how to change or alter instruction for student needs. These studies supported the notion that a combination of knowledge and insights helps teachers be effective and efficient in teaching reading.

Focusing on the students. The attention to the knowledge of students by the teacher for effective teaching was a recurring theme in the PCK model. The National Board for Professional Teaching Standards (NBPTS, 2016) focused on the importance of teachers' knowledge of students as a means of having a positive influence on the learning of the student in the five core propositions. An aspect of accomplished teaching, according to the NBPTS, is that a teacher not only has specialized knowledge about the subject that he or she is teaching, but also possesses an understanding of how to develop opportunities of learning that meet students' needs (Proposition 2). Griffith et al. (2016) found that effective and efficient teachers know about their learners and learning practices and help students overcome struggles. Differentiation is the adaptation of instruction based on students' needs (Fuchs & Fuchs, 2016).

Differentiation in the Classroom

Birdsall's (2015) description of teaching involved a teacher using the combined knowledge in PCK to adjust his or her instruction for student success. Students have a wide range of experiences, abilities, and capabilities that teachers address for successful

learning. The individualized adaptation of the learning to the needs of the students marks effective instruction (Shulman, 1987). In the current study, the altering and adapting of instruction was referred to as differentiation.

A profile of differentiation. Differentiation occurs when a teacher acts responsively and adapts instruction or curriculum to a learner's needs to maximize student growth and academic success (Puzio et al., 2015; Tomlinson, 2013). Differentiation occurs in the content, teaching, assessments, or products of a lesson according to the students' individualized readiness, interests, and learning styles (Firmender et al., 2013; Long, 2014; McCarthy, 2014; Tomlinson, 2013, 2014). Differentiated instruction (DI) is useful for teaching reading to those who are considered at-risk as this approach helps the teacher reach the different learning needs and mixed skill levels of students in the classroom (Long, 2014; Tomlinson, 2013, 2014). The knowledge of the student in conjunction with the content and pedagogical knowledge serves as the foundation for the strategic planning and changes when instructing students in the classroom for maximum student success (Alexander & Fox, 2013; Griffith, 2017; Tomlinson, 2013, 2014). Valiandes (2015) completed a 1-year, quasi-experimental study with 24 fourth-grade teachers and 479 fourth-grade students and found that through quality differentiation by the teacher, the reading achievement gap was stabilized, equity to quality education was reached, and reading success was seen. The way a teacher thinks about instruction and student learning and how his or her perspective translates into the instructional practice of meeting students' needs in the classroom is the essence of differentiation.

Differentiation and literacy. Tomlinson (2009) found that adolescent literacy was promoted by instruction and differentiation working together. Understanding the differences between students' backgrounds, learning styles, and needs is essential when using differentiation (Shulman, 1987; Tomlinson, 2009). Teachers gain that knowledge by building relationships, studying the students, and using data from assessments (Tomlinson, 2009). Firmender et al. (2013) affirmed Tomlinson's idea of the necessity of knowing students. Firmender et al. found that using the knowledge of students to differentiate instruction was the only way to meet the diverse reading capabilities of 1,149 upper elementary students according to their reading comprehension scores. To differentiate effectively, a teacher must know his or her students well enough to adjust instruction to meet their needs. Kent et al. (2017) found through their study of fourth graders in 10 Florida and Texas schools among four districts that differentiated instruction increased student achievement through direct guidance of a specific skill. Maniates (2017) found, after studying three K-3 urban elementary teachers' differentiation tactics with the existing reading program, that teachers who expanded the opportunity to learn after teaching adaptively met their students' needs. Effective differentiation allowed students to access the material to learn.

Forms of differentiation. There are multiple types of differentiation in a class for reading comprehension. Examples of differentiation in reading include a teacher's guided reading groups, individualized instruction by focusing on the reader, held reading conferences, or modified tasks or texts used for comprehension (Keene & Zimmerman, 2013; Puzio et al., 2015). Those instructional practices are flexible and support student

learning (Moos & Pitton, 2014). The goal of reading differentiation is to help students comprehend and have reading success.

Using the combined models of Shulman's (1986) pedagogical content knowledge (PCK) model and Tomlinson's (2000) differentiated instruction (DI) learning model acted as the foundation for evaluating the effectiveness of the teaching background, preparedness, instruction, and adaptation in this study (see Adoniou, 2015; Carney & Indrisano, 2013; Shulman, 1986; Tomlinson, 2000). The PCK and DI provided a lens for the analysis reflecting on how a teacher's content knowledge of nonfiction reading, their insight on teaching, and their responsiveness to the needs of their students shaped the instruction they employed within the classroom. A continued understanding of Texas upper elementary teacher's knowledge of the student, content, and pedagogical knowledge served as the foundation for future adjustment to instruction for student success in comprehension and academics.

Literature Related to Key Variables and/or Concepts

Nonfiction Reading Comprehension

Current Pedagogy

In upper-elementary (Grades 3-5) there was a shift to reading-to-learn as students used comprehension of expository text for their learning (Hebert et al., 2016; Kragler et al., 2015; Roberts & Norman, 2015; Wagner & Espin, 2015). Hebert et al., (2016) found in their meta-analysis that the difficulty in the shift for students came from the different skills needed for the comprehension of complex texts. Leidig, Grunke, Urton, Knaak, and Hisgen (2018) indicated that struggling to understand during the shift may have been the

result of the lack of the ability on the student's part to apply the complex and metacognitive skills necessary to process information when reading. Researchers indicated that the difficulties with complex content can only been remediated through teacher instruction of comprehension skill strategies (Kragler et al., 2015; Mercado & Cole, 2014; Roberts & Norman, 2015; Sibberson & Szymusiak, 2016; Wagner & Espin, 2015). Children needed to be taught by teachers to be thinking while reading to aid in comprehension. However, little instruction was offered to students in how to comprehend nonfiction or instructional text (Durkin, 1978; Ness, 2015; RAND Reading Study Group, 2002). Johnson (2018) claimed comprehension was one of the most under-instructed elements in reading programs while being crucial for student understanding. The lack of exposure and teachings of nonfiction comprehension strategies may have led to struggling students and may be connected to low reading achievement scores (Aud et al., 2013; Cirino et al., 2013; Fisher & Frey, 2015; Hughes & Parker-Katz, 2013; Massey, 2014; Roberts & Norman, 2015; Simmons et al., 2014; Stead, 2014; Wexler, Reed, Mitchell, Doyle, & Clancy, 2015). Low reading achievement scores were an indicator of continued struggles, possible academic gaps from a lack of understanding of the curricula, and a peril of becoming a drop-out of school (Kent, Jones, Mundy, & Isaacson, 2017; Levin, 2017). The shift to reading to learn and a possible lack of exposure to direct teaching had resulted in low reading achievement scores, which indicated continued struggles for those students.

Lack of Exposure

Reasons for the lack of exposure of direct teaching may have included, as found in the literature research, the teacher receiving very little training in how to have taught reading and the assumption that the taught skills in the lower grades would carry over (Clarke et al., 2017; Sibberson & Szymusiak, 2016). Teachers were not prepared to have taught a class with diverse capabilities in how to comprehend (Clark & Ivankova, 2016). Teachers could have struggled to make in-the-moment teaching decisions for responsive teaching (Griffith et al., 2016). Additionally, not all students progressed in their reading capabilities at the same time and needed continued instruction and support to become successful (Sibberson & Szymusiak, 2016). Moreau (2014) surveyed 35 middle school teachers who reported that they struggled with identifying the specific needs of the students and with an inability to know how to address the needs. Gaitas and Martins (2017) also found that there could be difficulties in differentiating, which could also explain why teachers did not always effectively directly teach reading comprehension strategies. After analyzing the questionnaire responses of 273 primary school teachers, Gaites and Martins (2017) found that the adaption of curricular elements to student needs and the scaffolding of the learning for forwarding momentum could be most challenging.

Skills Needed for Comprehension

Successful reading comprehension required knowledge by the reader of a range of complex strategies that were used flexibly (Keene & Zimmerman, 2013; Roberts & Norman, 2015; Vaughn et al., 2014) and supported the active process of engaging text (De Koning & van der Schoot, 2013; Maloch & Bomer, 2013; Mercado & Cole, 2014;

Texas Education Agency, 2002). Students needed to be instructed on how to analyze ideas and messages, read informational and organizational aides, synthesize text, and make general meaning (Guthrie & Klauda, 2014). Instruction of students should also include the teaching of how, why, and when to use a strategy which was called metacognitive knowledge (Keene & Zimmerman, 2013; Kostons & van der Werf, 2015; Yoo, 2015). Through the direct instruction and explicit teaching of metacognitive strategies, students became aware of their thinking when comprehending, their level of knowledge as they read, and developed transfer abilities to their independent reading (Donker, De Boer, Kostons, Dignath-van Ewijk, & van der Werf, 2014; Pratt & Urbanowski, 2016; RAND Reading Study Group, 2002; Robinson, Lambert, Towner, & Caros, 2016). Once taught those strategies through explicit instruction, students would engage them flexibly and as needed to help to comprehend nonfiction reading.

Kissau and Hiller (2013) in a cross-continental study of 38 German and American teachers found through surveys and video documentation that explicitly teaching and interacting with reading strategies enhanced student comprehension. Similarly, Herrera, Truckenmiller, and Foorman (2016) completed a meta-analysis of 33 studies on adolescent literacy programs and found that explicit instruction in reading comprehension showed to have had positive effects on the comprehension of adolescents. When teaching explicit reading comprehension informational text practices, teachers needed to teach the strategies on how to access and build background knowledge and inferring, generate questions of the readings, visualize, monitor their understandings, and determine essential information to summarize their learning (Burns et al., 2017; De Koning & van der

Schoot, 2013; Jones, Clark, & Reutzel, 2016; National Reading Panel, 2000; Roberts & Norman, 2015; Texas Education Agency, 2002). Those skills and strategies were essential to comprehension to make sense of nonfiction text for learning. When teaching an approach explicitly, the teacher must have had defined, described, and modeled its use. The quality of the teacher's practice was what influenced students' reading growth (Duke, Cervetti, & Wise, 2015). A teacher needed to have sufficient knowledge about their content, pedagogy, and students to be able to direct the instruction for independent and successful usage by struggling students (Burns et al., 2017; Griffith & Lucina, 2017; Varga, 2017). For this study, teachers reflected on their nonfiction reading PCK level of content and pedagogy knowledge of the teaching of those same skills for comprehension.

Activating prior knowledge and inferencing. Activating previous knowledge or experiences and making inferences by linking the knowledge with text was done during the process of reading to help students form a framework, or situational model, that aided in comprehension (Ahmed et al., 2014; Deeney, 2016; Denton et al., 2015; Lemov, 2017). For the reader, this process was meant to ground the meaning and context of learning. Under direct instruction of that skill, students integrated their background knowledge with information that was new to build better understandings (Elbro & Buch-Iversen, 2013; Kostons & van der Werf, 2015). Barth and Elleman (2017) completed a randomized inference treatment with 66 struggling middle school readers and discovered that teaching inference strategies were found to improve reading comprehension. The integration of one's previous knowledge with new information falls under the realm of knowledge-based inferencing which helped to fill in the gaps of what is not known from

reading (Elleman, Barth, & Oslund, 2015; Hall, 2016; O'Brien, Cook, & Lorch, 2015). Importance, then, was given to making personal connections when reading for comprehension (Pearson, 2013; Snow & O'Connor, 2013). This strategy would help students understand nonfiction text more easily.

Inferencing, as described in the literature, has a significant effect on the ability to comprehend (Ahmed et al., 2014; Barth, Barnes, Francis, Vaughn, & York., 2015; Elleman et al., 2015; Hall, 2016). The premise that direct instruction of inferencing had a positive effect on reading comprehension was found within research studies. Hall's (2016) nine synthesized articles, Elbro and Buch-Iversen's (2013) experimental study of 16 sixth-grade classes, Ahmed et al. 's(2014) comparison of the Gates MacGinitie and Texas Assessment of Knowledge and Skill scores of 1,196 seventh through 12th-graders found that reading comprehension improved after direct instruction of inferencing. However, Barth and Elleman's (2017) study of 66 middle school struggling readers data analysis showed that direct inference teaching resulted in significant gains for content assessment but was less effective on the Wechsler Individual Achievement Test-Reading Comprehension, indicating the students could not transfer the practice to higher rigorous text levels. Differences in the knowledge level of the teachers doing the explicit inference teaching may have been the reason for the difference in findings.

Question generation. Question generation was a self-regulatory strategy where the reader formed questions while reading to check for comprehension and understanding of the text (Cameron, Van Meter, & Long, 2017; Joseph, Alber-Morgan, Cullen, & Rouse, 2016; National Reading Panel, 2000; Ness, 2015). The questioning strategy

required students to process and explain the text to help them to build a conceptual map of the learning (Loh-Hagan & Bickel, 2014). There were two forms of questioning: low level and higher level. The quality of the questions asked by the student determined how beneficial questioning was with comprehension (Cameron et al., 2017; Humphries & Ness, 2015). The higher-order questioning helped build a better conceptual text perception and increased reading comprehension (Cameron et al., 2017; Ness, 2015). Inferred was that a student who was able to ask and answer higher level questions about a nonfiction text were engaged in the material thus denoting comprehension.

Self-generated questions may have led to an increase in reading comprehension (Mercado & Cole, 2014; National Reading Panel, 2000; Ness, 2015). De Milliano, van Gelderen, and Sleegers (2016) videotaped sessions post training on generating questions of 51 low-achieving adolescents and reported that the students were able to improve their reading comprehension and success at task orientation activities. However, Joseph et al.'s (2016) meta-analysis of 35 studies on self questioning could not substantiate that the skill helped students interpret the text at a deeper level. It was inferred that self-questioning at a higher level was what helped the students understand more. When students asked questions about nonfiction texts, they were focused on the critical information, author's purpose, and central ideas (Joseph et al., 2016; Loh-Hagan & Bickel, 2014; Ness, 2015, 2016b). Self-questioning then became a higher-level skill that required critical thinking (Humphries & Ness, 2015). For students to master that skill, instruction on higher level questioning generation and answering and monitoring reading comprehension increased

their ability to learn independently (Joseph et al., 2016). Question generation was an action that encouraged strategic thinking and reading skills within the students.

Visualizing text. Visualizing text was a cognitive activity that required the processing of material at a deeper level to build a schematic, or situational model, of what the text was about (De Koning & van der Schoot, 2013; Leopold & Leutner, 2015; RAND Reading Study Group, 2002). Students used evidence from the text to build a representation in their mind of what they were comprehending from their reading. Students who struggled with understanding what they read could use visualizations as scaffolds that facilitated the understanding of the text (Cappello & Walker, 2016; Gormley & McDermott, 2015). Those images represent text content and helped them to monitor their understanding of information as they organize, integrate, and retrieve learning from text (Cappello & Walker, 2016; De Koning & van der Schoot, 2013; Gormley & McDermott, 2015; Leopold & Leutner, 2015). Visualizing required the students to actively process the information from the text thereby enhancing their text comprehension (De Koning & van der Schoot, 2013; Gormley & McDermott, 2015; Leopold & Leutner, 2015). The visualization process and critically thinking allowed for a student to have in-depth engagement with the material at a deeper level thus leading to more reading comprehension.

Instruction in visualization had students building what they read as mental images. Although research studies have shown the use of visualization techniques, there was limited literature and research on teaching visualization (De Koning & Van der Schoot, 2013). De Koning and van der Schoot's (2013) literature study indicated that a

teacher consistently telling his or her students to make-a-picture of what they were reading in their head did not equate to an improvement in reading comprehension levels. Through their qualitative study of seven fourth through sixth-grade teachers using observations, interviews, and planning documents, Cappello and Walker (2016) found that the struggle of teaching visualization was the result of ineffective pedagogy for instruction. Although there was a consensus that visualization was a strategy that should be taught to help students improve their reading comprehension of complex texts, there was little literature on how to give instruction on that strategy.

Text structure and organization. Teaching students about structures and organization of text helped identify important information they used to build a conceptual, mental, or a processual model, of what they were understanding and comprehending (Hebert et al., 2016; Hodges & Matthews, 2017; Lorch, Lemarie, & Chen, 2013; Roehling, Hebert, Nelson, & Bohaty, 2017; Sulak & Gunes, 2017). Knowledge of text structures and text features of nonfiction texts helped students to navigate the information systematically as they saw how the author has connected ideas, thereby improving their understanding (Jones, Clark et al., 2016; Maloch & Bomer, 2013; Roberts & Norman, 2015; Texas Education Agency, 2002). There were five text structures for expository text: (a) descriptive, (b) sequence, (c) compare-contrast, (d) problem-solving, and (e) causation (Bohaty et al., 2015; Hebert et al., 2016; Sulak & Gunes, 2017; Williams et al., 2014). Each written structure has a specific style and signaling words that helped to identify author's purpose and helped to break up the text (Frankel, 2013; Hebert et al., 2016). To be used by the student, text structure and

organization must be taught by the teacher as a means of helping with nonfiction comprehension.

Explicitly teaching students structure and organization of text has increased reading comprehension of students according to the findings in multiple studies(Jones, Conradi, & Amendum, 2016; Maloch & Bomer, 2013; Sulak & Gunes, 2017). Hebert et al. (2016) after analyzing 45 studies found that teaching descriptive and compare/contrast text structure enhanced and improved expository reading comprehension. Additionally, Hebert et al. (2016) found very few of the studies with none recent included research on all five of the text structures indicating that was an area that needed further exploration. However, Maloch and Bomer (2013), in their review of the literature, found that explicit instruction would only be effective if situated with authentic opportunities for reading texts and there was a reduced over-reliance of teaching signal words only as they did not help the struggling reader comprehend the text.

Monitoring understanding and finding a fix. Instructing students to monitor and self-regulate their comprehension of nonfiction text was considered a strategic knowledge, or metacognitive, process that helped in students beginning to be aware of how well they were comprehending complex texts (Alexander & Fox, 2013; Carney & Indrisano, 2013; Connor C.M., Philips et al., 2014; Joseph et al., 2016; Strasser & del Rio, 2013; Zabrucky, Moore, Agler, & Cummings, 2015). Monitoring reading was a metacognitive skill where the student checked their understanding or used elf-questioning, and knew when to apply appropriate reading strategies to overcome comprehension difficulties (De Milliano et al., 2016; Denton et al., 2015; Joseph et al.,

2016; Zabrucky et al., 2015). In a sense, students used their critical analyzing and problem-solving skills when they were monitoring their comprehension. By explicitly teaching how to monitor understanding, teachers were teaching students a conscious level of engagement and the signals to attend to which indicated to themselves how well they were reading (Strasser & del Rio, 2013). This skill was more than just teaching students to reread material when they did not understand.

Acknowledging that there was a breakdown in comprehension was only half of the monitoring strategy. To use that strategy for optimal success, students were taught how to find fixes for what they did not understand, like reflecting on what was just read or making a concept map out of the material (Connor, Radach, et al., 2014; Denton et al., 2015; Joseph et al., 2016). The goal in having taught the strategy was to have the students monitor and the fix synchronously and flexibly as they read. Leopold and Leutner (2015) suggested to have taught students how to use a feedback loop of self-regulated learning where they set goals for their reading, monitored their progress toward their goals, and made adjustment as necessary to reach their goal. Students needed to know when they were struggling so that they could take measures to fix the breakdown in their comprehension.

Summaries and main idea. When students summarize, they used a cognitive strategy that helped to process text at a deeper level as a summary required an analysis of the material (Marzec-Stawiarska, 2016; Nandhini & Balasundaram, 2016; Pascual & Goikoetxea, 2014). To summarize, students were focused on what was the crucial text information and then condensed it down into meaningful sentences (Burns et al., 2017;

Wichadee, 2014). When summarizing, students activated the thinking processes by making meaning out of what was read, pulled out the essential ideas, and put the information into their own words (Burns et al., 2017; Marzec-Stawiarska, 2016). Their summary then acted as a recheck of their understanding of what they read. However, researchers noted that students had a difficult time in determining important information for inclusion in a summary (Burns et al., 2017; Nandhini & Balasundaram, 2016; Spirgel & Delaney, 2016; Wichadee, 2014). To address student difficulties required teachers to have explicitly taught students how to summarize.

There were very few articles in which researchers discussed how to teach summary to upper-elementary students. Of the articles found, most centered on English learners, students with disabilities, or with higher education students (Burns et al., 2017; Nandhini & Balasundaram, 2016; Spirgel & Delaney, 2016; Wichadee, 2014). The few research studies related in some manner to elementary or adolescent readers indicated that summary skills were shown in research to help with reading comprehension (Asaro-Saddler, Muir-Knox, & Meredith, 2018; Marzec-Stawiarska, 2016; Pascual & Goikoetxea, 2014). Spirgel and Delaney (2016), however, found after completing five experiments with different aspects of summary instruction or assessment that summary did not appear to help with text retention unless students wrote a quality and thorough written summary. A teacher, when teaching summary writing, needed to scaffold the process via describing the strategy on how to identify critical details; support the understanding of the text, inferencing, help make connections between reading and concepts through situational models, and break-down how to synthesize the information

(Asaro-Saddler, Muir-Knox, & Meredith, 2018; Burns et al., 2017; Kucan & Pallinscar, 2013; Loh-Hagan & Bickel, 2014). That technique was not always easily done, however. Asaro-Saddler et al.'s (2018) experimental study of 30 disabled students and two teachers resulted in findings that suggest that teachers that do not have the pedagogy knowledge to have taught summary skills with quality resulted in students struggling with that skill. Any teachers teaching students how to summarize successfully needed to ensure that they have built up their pedagogical knowledge about summaries.

The pedagogical knowledge required by teachers to have taught nonfiction reading comprehension strategies was more than just knowing how to open a book and read the words. The teacher needed to be knowledgeable about how to explicitly teach the complex skills of how to activate prior knowledge and inferencing to help students integrate old knowledge with new (Burns et al., 2017; De Koning & van der Schoot, 2013; Griffith & Lucina, 2017; National Reading Panel, 2000; Roberts & Norman, 2015; Texas Education Agency, 2002). Knowledge on instructing students how to ask and answering questions of the text to aid in comprehension, visualize and compose situational text models, and monitor their understanding of the text was essential for success (Burns et al., 2017; De Milliano et al., 2016; Denton et al., 2015; Joseph et al., 2016; Nandhini & Balasundaram, 2016; Spirgel & Delaney, 2016; Wichadee, 2014; Zabrucky et al., 2015). Instruction should also have taken place on how to summarize what the text is communicating. Successful teaching occurred when the student could use his or her metacognition to use all of those strategies when needed as they were trying to

comprehend nonfiction text. The stronger the skill base knowledge equated to a stronger the comprehension of nonfiction text.

The Upper-Elementary At-Risk, Late-Emerging Reading Difficulties (LERD) Reader

Poor comprehension struggles. Students with poor comprehension could have had high reading fluency but had difficulty in learning as they did not understand what was read and were slow as they did not learn at the same rate as their peers (Rosita Cecilia, Vittorini, & di Orio, 2016). Struggles in upper-elementary with comprehension could potentially have led to poor academic outcomes that included repeating a grade, furthering the widening of their academic gap, difficulties in learning, or dropping out of school altogether (Al Dahhan, Kirby, & Munoz, 2016; Pfost, Hattie, Dorfler, & Artelt, 2014; Wagner & Espin, 2015). Those poor comprehending students risk grade failure or becoming a drop-out because they were not able to overcome their struggles.

Poor comprehension struggles were not isolated to a single year and were challenging to overcome as shown by Ricketts et al. (2014) longitudinal study on 30 (poor and adequate) students, ages 9- 16. The findings of Ricketts, Sperring, and Nation's (2014) study found that those students who were considered poor comprehenders in mid to late childhood in their educational career remained that way and were at risk for poor educational attainment and low educational outcomes. However, Etmanskie et al.'s (2016) longitudinal study of fourth-grade through seventh-grade students' reading results indicated that 67% of students who were newly identified as having reading comprehension problems in grade 4 recovered by grade 7. Etmanskie et al.'s (2016) study

results indicated that performance varies across time, but under the right conditions students could make up their deficits. If the teacher was to have met the needs of those struggling readers, then they needed to access and profile the specific struggles of the student with comprehension.

At-risk, LERD student profile. Upper-elementary struggling reading comprehension students did not in one mold, or have one issue, and struggled due to multiple reasons (McMaster, Espin, & van den Broek, 2014; RAND Reading Study Group, 2002; Ritchey et al., 2017; Santaro et al., 2016; Wanzek et al., 2013). There were three specific kinds of reading problems for the at-risk student: word reading difficulties, comprehension difficulties, or a combination of word and comprehension difficulties (Duke, Cartwright, & Hilden, 2014; Jones, Conradi et al., 2016; McMaster et al., 2014; Spear-Swerling, 2016). Conradi, Amendum, and Walkowiak (2014) examined reading data for 6,000 3rd graders who failed the high-stakes state reading test and found the biggest group of students, 63.3%, could read fluently but could not comprehend. For this study, I focused on students who had sufficient word decoding skills but were poor comprehenders and had reading comprehension difficulties only.

Students who began to have difficulties with reading only in upper-elementary were termed as late emerging reading difficulties (LERD) readers (Etmanskie et al., 2016; Koriakin & Kaufman, 2017; Lonigan & Burgess, 2017). Those students may have had shown adequate reading achievement and comprehension in early elementary but when they reached upper-elementary in the third, fourth, and fifth grade with its emphasis on reading to learn they began to fall behind their peers due to the advanced skills

necessary to access text and learning. Researchers Etmanskie et al., (2016) and Ritchey, Silverman, Schatschneider, and Speece (2015) suggested the identification happened late because early reading screening did not test for multiple problems associated with LERD readers. Lonigan and Burgess (2017) also contend after their study of 1,501 children in kindergarten through fifth-grade results of three standardized measurements of comprehension that the resulting identification of LERD students may more have been a reflection of previous tests that did not assess the developmental process of comprehension. Research does not offer solutions, beyond changing assessment tests, as to identify those students during the early elementary years.

The characteristics of LERD readers were complex as there was not just one description that fit all. Koriakin and Kaufman (2017) found in their study of 3,843 K-12 student results from the Kaufman Test of Education that those students showed difficulty with working memory and processing, both cognitively and written. Koriakin and Kaufman findings suggested that LERD students could have shown any one or a combination of difficulty characteristics. The characteristics included making and confirming predictions, applying background knowledge, establishing connections, struggling with identifying the main idea and summarizing, struggling to build mental models, and being unable to use adequately metacognitive strategies to help them to comprehend (Santaro et al., 2016; Scammacca et al., 2016; van den Broek, Helder, & Van Leijenhorst, 2013; Vaughn et al., 2013). With the LERD reader having had that many possible combinations of difficulties, it was understandable why those students also

did not show the flexibility of strategy usage required for comprehending complex nonfiction text.

Differentiation to help learners. Having pedagogical content knowledge of nonfiction reading comprehension strategies for instruction must have included knowing the struggling, at-risk reader to help those students attain academic success (Moreau, 2014; National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010; Scammacca et al., 2016). It is knowledge of the specific difficulties and deficits of the student that helped the teacher to impact instruction for better learning as the lessons and skills taught could be tailored to particular struggles (Cassidy, Ortlieb, & Grote-Garcia, 2016; Hall & Comperatore, 2014; International Literacy Association, 2000; Latham, 2014; Moreau, 2014; Scammacca et al., 2016; Shaunessy-Dedrick, Evans, Ferron, & Lindo, 2015). For this study, the adjusting of instruction was analyzed using the lens of differentiation.

The need for an effective reading teacher to differentiate had to do with the needs of the students he or she is instructing within any given classroom. Firmender et al. (2013) found an average of 10.7 different reading comprehension levels in third-, fourth-, and fifth-grade classrooms across five elementary schools. A reliance on outside interventions like Response to Intervention or other quick fix interventions that seemed ineffective did not seem to negate or meet the needs present within actual teaching environments for the struggling reader (Balu et al., 2015; Compton, Miller, Elleman, & Steacy, 2014; Jones, Clark et al., 2016). It then fell to the classroom teacher, during actual instruction, to have met the needs of the students based on the learning profile of

the student (Tomlinson, 2000; Ritchey et al., 2017; Scammacca et al., 2016). Time needed to be given over to the planning and implementation of instruction on the strategy to the student.

With such a wide range within the classroom, an instruction plan with varying levels of scaffolding support, or differentiation, was the way for everyone to accomplish successful learning (Dixon, Yssel, McConnell, & Hardin, 2014; Shaunessy-Dedrick et al., 2015; Tomlinson, 2014). Research had shown that using differentiation with instruction improved students reading comprehension and effectively improve student learning (Dixon et al., 2014; Shaunessy-Dedrick et al., 2015). What seemed to make the most significant difference with the differentiation was the explicit instruction that had a teacher modeling the strategy, and students were given opportunities to work with the approach in authentic text thus allowing to them to build up their metacognition (De Milliano et al., 2016; Denton et al., 2015; Joseph et al., 2016; ; Zabrucky et al., 2015).

When focusing on differentiation, the teacher was guided by the essential ideas and skills for the studied content, individual student differences, the integration of assessment that knew where the student stood in his or her learning, and ongoing adjustments to the content, process, or products that met individual needs for the students to learn (Tomlinson, 2014; Tomlinson & Jarvis, 2009). Teachers used the curriculum as a driving force for the learning of content, but modified, expanded, enriched, supplemented, and provided choice to students during instruction for them to take ownership of and maximize their knowledge of the content (Moje, 2015; Parsons, Dodman, & Burrowbridge, 2013; Pilten, 2016; Tomlinson, 2014). Through

differentiation, students received the individualized instruction they needed to have met their needs and struggles with learning.

Summary

In upper-elementary, teachers expected students to have shifted their learning through nonfiction reading. The level of a teacher's pedagogical content knowledge was related directly to his or her effectiveness and efficiency as an educator in helping his or her students meet the needs of nonfiction reading comprehension (Shulman, 1986). Teachers must have known how to directly and explicitly teach the skill sets of activating prior knowledge and inferencing, asking questions of the text, visualizing, monitoring his or her understandings, and determining essential information to summarize his or her learning for students to comprehend successfully. A teacher must have also possessed the knowledge of his or her students to adjust instruction for student success and to have met needs. It was a teacher's application of his or her content and pedagogical knowledge, combined with knowledge of his or her students, that helped students comprehend the complex texts required for learning and academic success (Adoniou, 2015; Behrmann & Souvignire, 2013; Carney & Indrisano, 2013; George, 2011; Griffith et al., 2015; Shing et al., 2015; Shulman, 1986).

With the shift to reading to learn, there was an increase in the identification of at-risk, LERD upper-elementary students who risked failure and dropping out of school. Those students struggled with more than one issue that hindered their ability to comprehend grade-level material. Teachers could help those at-risk, LERD students by using their PCK knowledge and explicitly teaching strategies and individualize their

instruction to have met needs using differentiation techniques. Those actions by the teacher helped the student to fill in their learning gaps and become successful at meeting the complexity requirements for reading to learn in upper-elementary.

Common themes from the literature review were the importance of teacher's possessing pedagogical, content, and student knowledge when instructing students efficiently and meeting their needs for academic success (Adoniou, 2015; Birdsall, 2015; Carney & Indrisano, 2013; Firmender et al., 2013; Griffith, 2017; Griffith et al., 2015, 2016; Kent, Wanzek et al., 2017; NBPTS, 2016; Tomlinson, 2013). The reading to learn shift to complex nonfiction text could be a difficult one as students struggled with the different skills needed for the comprehension of complex texts (Hebert et al., 2016). Explicit direct instruction happened to students by teachers on how to activate background knowledge, inference, generate questions, visualize text, identify text structure and organization, monitor understanding and finding a fix, and summarizing (Burns et al., 2017; De Milliano et al., 2016; Denton et al., 2015; Joseph et al., 2016; Kragler et al., 2015; Mercado & Cole, 2014; Nandhini & Balasundaram, 2016; Roberts & Norman, 2015; Sibberson & Szymusiak, 2016; Spirgel & Delaney, 2016; Wagner & Espin, 2015; Wichadee, 2014; Zabrucky et al., 2015).

Little was known, however, about teachers in upper elementary and his or her At-Risk expository reading comprehension instruction or how pedagogical content knowledge influenced preparedness, instruction, and differentiation. This study helped to further the literature on how upper elementary teacher's use of PCK factors into the instruction of nonfiction reading comprehension strategy and how he or she used those

factors to differentiate instruction for the success of at-risk, LERD students in the state of Texas. The single-case study used three data sources as a means of building a picture of what was happening with nonfiction reading comprehension instruction in the upper elementary classrooms of Texas. The intended methodology, participants, and procedures of the study are discussed in Chapter 3.

Chapter 3

Introduction

The purpose of this exploratory single case study was to gain a deeper understanding of the pedagogical content knowledge of Texas upper elementary teachers who teach nonfiction reading comprehension strategies to at-risk students who did not qualify for special education services. A case study design was best suited to explore the opinions, values, and attitudes of the participants within the context of their work lives (see Miles, Huberman, & Saldana, 2014). A case study allowed for the exploration of planned and initiated nonfiction reading comprehension instruction.

Chapter 4 includes a description of the research design and rationale followed by information on my role as the researcher. The chapter also contains information on participant selection, instrumentation, procedures, and data analysis. I also provide a review of trustworthiness (credibility, transferability, dependability, confirmability) and ethical procedures.

Research Design and Rationale

The central research question was the following: How did upper elementary teachers in Texas describe their pedagogical content knowledge for nonfiction reading comprehension strategies instruction? The three subquestions were the following:

4. What did 3rd- through 5th-grade teachers report about their pedagogical content knowledge in teaching expository text comprehension to upper elementary students?

5. How did upper elementary teachers report developing their content knowledge and skills to instruct expository text comprehension?
6. What differentiation approaches did upper elementary teachers implement to their instruction to meet the needs of at-risk, late-emerging reading difficulties students?

I used a qualitative exploratory case study design with three data sources. Yin (2014) stated that a case study is useful for investigating a real-world phenomenon and there are no clearly defined or understood boundaries between phenomenon and context. The boundaries between the phenomenon of pedagogical content knowledge and the real-life application to upper elementary nonfiction reading comprehension instruction and differentiation of at-risk LERD students was not fully understood. Yin contended that a case study design supports the use of multiple evidence sources to determine findings. In this study, multiple in-depth boundary examinations in the setting of a classroom were analyzed using a closed-item questionnaire and open-ended scenario-based interview questions with teachers in Grades 3-5 who teach nonfiction reading comprehension strategies with at-risk LERD students.

In determining the research design, I considered and rejected different methodological plans. I did not intend to look for causal inferences or confirm a hypothesis (see Clark & Ivankova, 2016), disprove hypothesis testing (see Kraska, 2010), or develop a new theory (see Allen, 2017), so quantitative methods were rejected. My focus was to explore a phenomenon occurring in classrooms. After careful review and

consideration of the alignment of the study purpose and questions, I chose a case study design.

The single case study design allowed for descriptive analysis of data from upper elementary teachers, and the theories of pedagogical content knowledge and differentiation allowed me to identify patterns among constructs in the data (see Mills, Durepos, & Wiebe, 2010). I used three sources of data to provide a detailed analysis of those patterns (see Clark & Ivankova, 2016). I used a questionnaire to locate high-quality data sources for the qualitative interviews, which had several grade levels included, for more depth of information (see Morgan, 2014). The combination of three sources for data collection and analysis helped me conduct a robust study.

Role of the Researcher

In a qualitative study, the researcher makes decisions based on his or her ontology and epistemology (Stewart, 2014). The *how* and *why* questions are based on what the researcher wants to know. In this study, I wanted to know what knowledge upper elementary teachers possess to teach nonfiction reading comprehension strategies and how teachers use that knowledge to differentiate lessons to meet students' needs.

The educational setting for my study was upper elementary classrooms throughout the state of Texas. I am a fifth-grade teacher who had no leadership role over any potential participants, who knew the curriculum and expectations of Texas in instruction, and who worked with diverse populations. My intention was to solicit anonymous survey responses from every third- through fifth-grade teacher in the state of Texas, so it was probable that my district and school was included in the survey results. I

did not include my school setting in the interview portion of the study to avoid possible bias.

Being a teacher-researcher meant that I needed to be hypersensitive to possible biases that may have affected the credibility, reliability, or validity of my study. I began by acknowledging that I may have had biases that influenced how I conducted interviews or analyzed the data. For example, one type of bias that may have influenced how I conducted interviews was an affinity bias because I taught in similar environments as the prospective participants. I may have shown confirmation bias as I was taking field notes from the interviews. To mitigate that bias, I recorded all conversations using electronic devices. My tone and body language had to be monitored to avoid leading questions or inflection bias. I needed to be conscious of my decisions and thought processes as I worked on different aspects of my study.

Methodology

Participant Selection Logic

The phenomenon of interest was the knowledge teachers possessed who taught nonfiction reading comprehension strategies to third through fifth graders in the state of Texas. I contacted and administered the survey to the teachers using e-mail addresses and the Internet. The obtained e-mail addresses came from the Texas Education Agency's Public Information office.

My sampling inclusion criteria were third- through fifth-grade Texas teachers who taught nonfiction reading strategies to a variety of students including those who were defined as at-risk and having late-emerging reading difficulties but were not classified as

special education students. My exclusion criteria were third- through fifth-grade teachers who did not teach nonfiction reading strategies, who did not have at-risk students with late-emerging reading difficulties, and who were not classified as special education teachers.

In case study methodology, the sampling size is limited to the time involved in collecting and analyzing data, the availability of participants who match the theory of the study, and the level of saturation reached when repeated results or patterns emerge that do not add to existing knowledge garnered (Stewart, 2014). Daniel (2012) contended that if the researcher is describing a population, a relatively large sample size is needed. Daniel recommended 400 to 2,500 participants for survey research. I did not achieve that number, but I had ease with getting subjects with diverse populations by focusing on Texas teachers in third through fifth grade who instructed comprehension strategies to at-risk and LERD students. A purposive stratified random sampling of third- through fifth-grade teachers allowed for a selection of participants who had the most relevant knowledge of information for the study (see Allen, 2017). The first data collection phase was in the form of an anonymous questionnaire, which allowed me to capture the most information from the population of interest. I intended to send out my initial inquiry to all upper elementary teachers in the state of Texas. According to the Texas Education Agency's Texas School Directory (2017-2018), 4,628 Texas public elementary schools contain Grades 3, 4, or 5. I requested e-mail addresses from the Texas Education Agency's Public Information Office as a means of contacting all third- through fifth-grade teachers from Texas.

I recruited a large sample for the questionnaire and a smaller group who agreed to an interview after the questionnaire. The open-ended scenario-based interviews for the second phase of collection allowed for more in-depth information gathering from a smaller sample. Emmel (2013) noted that the richness of narrative sought in a case study requires that sampling size be small for analysis. Interview participants were limited to 12 volunteers (four from each grade level in upper elementary). The limited number helped me conduct the study in a timely manner.

Participants who agreed to an interview were placed in a sampling pool. A random stratified sampling strategy was used to select individuals who were contacted through e-mail to set up a convenient time to conduct the interview. The pool was placed in three separate grade levels, and a random sample was selected from each level (see Daniel, 2012, 2015). Another consideration for a qualitative sample size was point of saturation. This is the point in data analysis when no new information is obtained as more individuals participate in the study (Nishishiba, Jones, & Kraner, 2014). In my study, saturation was achieved with 10 participants.

Instrumentation

There were three sources of data used in this study. The first source was a close-ended questionnaire modified from Trygstad's 2012 National Survey of Science and Mathematics Education: Status of Elementary School Mathematics. The second source was an open-ended scenario-based interview asking participants to respond to scenarios on how they adjusted and differentiated instruction for their at-risk students. The third source was public data on districts that participated in professional development

opportunities from the Texas Center for Learning Disabilities from the University of Texas at Austin.

Questionnaire

Trygstad's 2012 National Survey of Science and Mathematics Education questionnaire has been administered nationally to science and math teachers annually since 1977 (Banilower et al., 2013). The instrument was developed over time by experienced researchers in science and mathematics education (Banilower et al., 2013). The questionnaire was sent to the National Science Teachers Association, the National Council of Teachers of Mathematics, the National Education Association, the American Federation of Teachers, and the National Catholic Education Association for the development of validity, review, and feedback (Banilower et al., 2013). The reliability of Trygstad's questionnaire was developed by applying the statistical central limit theorem, which set the sampling error at 95% (Banilower et al., 2013). The weighting of the school and teacher characteristics to permit unbiased estimates of the population by the probability of selection was employed using a jackknife formula (Banilower et al., 2013).

For this study, I used the content of Trygstad's (2013) 2012 National Survey of Science and Mathematics Education questionnaire and modified it to reflect expository and reading comprehension. The Likert-scale format was maintained. A copy of the permission to use the original questionnaire is in Appendix A. A Word document of the electronic questionnaire is in Appendix B. To maintain content validity, I requested two content practitioners and one reading expert and a director at ABCD Center with a terminal degree to participate in validating the content and usability of the revised

instrument. From that feedback, adjustments were made to the wording and questions to ensure the quality of the questions asked.

The questionnaire provided descriptive, numeric information about the characteristics of the upper elementary teaching force, the viewpoint of the preparedness to teach nonfiction reading, and the pedagogical beliefs and preparation regarding effective teaching and learning in reading. Information on professional development training and activities on reading, at-risk, or differentiated instruction was reviewed as part of the pedagogical content knowledge focus. Teaching, including resources and materials, objectives, time spent, activities, methods of assessment, and factors affecting instruction, was also reported. That information helped me answer the research questions about what third- through fifth-grade teachers said about their pedagogical content knowledge in teaching expository text comprehension to upper elementary students, and how those teachers reported developing content knowledge and skills to instruct expository text comprehension. The data generated from the questionnaire informed the third question about the important factors detailed by third through fifth-grade teachers as that contributed to the changing of their instruction for struggling at-risk, LERD students. During the questionnaire, participants were asked to volunteer for the interview phase.

Open-Ended Scenario-Based Interviews

The second source of data was structured interviews asking teachers to respond to questions about their differentiation techniques to help three hypothetical at-risk, LERD students on a nonfiction reading comprehension activity. The source of the scenario construction of three hypothetical students came from the information from the literature

review on the at-risk, LERD student profile. A copy of the open-ended scenario-based interview guide is in Appendix C. Review and feedback were obtained from two content practitioners and one reading expert and a director at ABCD Center with a terminal degree to validate the content and usability of the questions for my interview. The interview conducted helped me identify the factors that contributed to the changing of instruction for struggling at-risk LERD students.

I conducted the interviews using an interview guide (in Appendix C) and audiotaped each. The interview provided a descriptive narrative about how teachers used pedagogical content knowledge to adjust instruction of nonfiction reading comprehension strategy instruction to have met the specific needs of their at-risk, LERD students.

Districts That Participated in Texas Reading Professional Development

The third data source was a list of districts that participated in state sponsored, Texas, reading professional development. This list of districts was to be obtained from the University of Texas as they maintained a database of the kinds and types of professional development districts participated in and offered by the state. I was to obtain a one-time list of districts after contacting a director at the University. This list was to be recorded using an Excel document. I was to use that information to triangulate the data from the self-reported responses from the questionnaire about the kinds of professional development teachers accessed.

Procedure for Recruitment, Participation, and Data Collection

After receiving the datasets from Texas Education Agency that contained the names and emails of upper elementary teachers in regular instruction public schools, an

electronic questionnaire went to each teacher. The first page of the electronic questionnaire had an informed consent page as the opening page of the questionnaire. The use of technology to send the participants the questionnaire was both costs effective and time effective when generating pools of data from diverse groups covering a broad geographical area (see Hewson, 2017). This study benefited from the use of the technology as it attempted to gain the perspectives and background of third- through fifth-grade teachers across the state of Texas. The questionnaire was a one-time collection data event intended to take no more than 30 minutes. I sent out that questionnaire over six weeks (once every two weeks) for non-responders. The data helped answer the pedagogical content knowledge questions of how teachers reported developing and using their pedagogical content knowledge to have taught nonfiction comprehension skills. Additionally, the data included the essential factors detailed by the third- through fifth-grade teachers who contributed to the changing and adaptation of their instruction for struggling at-risk, LERD students.

As part of the exit to the study, all participants were thanked for their time and asked if they were interested in a follow-up check of their response summarization for their review and personal records. If they assented, then they were given a separate link to add their email for point of contact. Data gathered from the questionnaire was entered into Excel for analysis.

The last question on the questionnaire asked if the participant was willing to participate in a follow-up interview regarding differentiation and at-risk students. Again, those who consented were taken to a separate link to fill in their contact information to go

into a pool. Those who agreed were chosen to participate based on a random stratified selection by grade level and sent an informed consent document and invitation to participate at their convenience. I followed the guidelines recommended by Seidman (2013) and Castillo-Montoya (2016) for conducting interviews by ensuring that I used an interview guide and protocol (see Appendix C). As the interview was an open-ended, scenario-based, I identified initial questions in advance. A suitable location and time was set up with the participant with the request that as much as possible, a quiet area free from unnecessary distraction for the interview via technology. Interviews were conducted via synchronous online technology using a type of conferencing software, such as Skype, had the capability to record the interaction. The use of that technology was cost effective, time effective, had no geographical restraints, and allowed me to build rapport with the participants who will be important when seeking in-depth answers (O'Connor & Madge, 2017).

To establish rapport with my participants, I welcomed each interviewee, and reviewed the purpose, length of time, and method of transcription. I reiterated the assurances of confidentiality and arrangements I intended to use with numbers as pseudonyms. The transcribed recorded conversation was in a Word document for analysis. Two audio devices, a voice recorder on the computer and a cell-phone, recorded the audio data and, before each interview, I did a functionality check the equipment.

During the interview, I worked, as the interviewer, to avoid expressing a reaction to the information provided. It was vital to remain focused on the goal of obtaining useful quality data. I let the interviewee know while building a rapport that my intention was not

to express reactions to the words they used but instead to gather a holistic view of his or her experience. Follow-up questions, where appropriate, helped the individual remain focused and provided robust data. The interviews were scheduled to take no longer than 30 minutes. The data collected from the interviews went toward answering the question related to how upper elementary teachers reported developing their content knowledge and skills to instruct expository text comprehension and what factors contributed to the changing of their instruction to have met the needs of at-risk, LERD students. Additionally, the information collected described how third- through fifth-grade teachers reported changing or adapting their instruction for struggling at-risk, LERD students.

As an exit to the interview, all participants were thanked for their time and a confirmation of their contact information taken. The recordings were transcribed and a narrative formed based on the findings. Interviewees was sent a narrative copy of their interview for their review and personal records. Once participants had reviewed and confirmed the results, all data was entered by me into a separate Word document.

Data Analysis Plan

Two different forms of analysis were required to address the three types of data collected for this exploratory case study. An Excel document served to help analyze the questionnaire quantitatively without correlates between number statistical variables. A Word document was used for a qualitative analysis for the interviews. For the questionnaire, I analyzed with close-ended and Likert-type scale questions the descriptive information about the characteristics of the upper elementary teaching force, the viewpoints on preparedness to have taught nonfiction reading, and the pedagogical

beliefs and preparedness regarding effective teaching and learning in reading. For the interview, I used open coding to analyze the responses pulling common themes or patterns that emerged from the participant experiences with differentiation and at-risk student instruction.

I sourced data from the University of Texas to determine how many districts have partaken in state- sponsored literacy professional development in Reading to Learn Academies for third-, fourth, or fifth-grade teacher preparation. According to the description offered by the University of Texas at Austin's Texas Center for Learning Disabilities, the Reading to Learn Academies focused on the pedagogy of teaching comprehension and meeting the needs of struggling students. The number of districts participating in those academies was used to triangulate with the gathered questionnaire information on professional development training and activities on reading, at-risk, or differentiated instruction as part of the pedagogical content knowledge (PCK) focus. Teaching including objectives, time spent, activities, methods of assessment, and factors affecting instruction was reported in my data analysis. Finally, as the questionnaire was serving as a pool to locate data sources for the qualitative interview, the question regarding willingness to have further contact with me helped to identify potential interviewees.

Once I had transcribed the interviews to a Word document, an initial summary of findings from the participants' discussion was sent to them for a final member check. The approved or adjusted member checks and my field notes was entered into Word document to begin to code. Transcripts was entered precisely into the same document for

coding as well. I anticipated at least three rounds of beginning coding with *a priori* coding to achieve data reduction, reorganization, and representation using open coding if needed to add to the initial codes (see Roulston, 2014). I coded iteratively looking for data patterns, themes, or categories from individual questions in the study and interview. That data was used to build a narrative on how teachers used their pedagogical content knowledge (PCK) foundation to change instruction for struggling at-risk, LERD students.

This study generated a large quantity of data that needed sorting. Discrepant cases developed as not all data was originating from the same perspective. Discrepant cases were cases that may not have followed the consensus, but should not have been disregarded as they were useful in understanding the bigger picture of the phenomenon (Brooks, Riele, & Maquire, 2014). Those discrepant cases were elucidated when drawing conclusions on the data to maintain ethical standards. The manner of treatment of discrepant instances was handled ethically and with integrity as all findings was reported with full disclosure and without omission of data so as not to distort results (Brooks et al., 2014).

Issues of Trustworthiness

It was the responsibility of any researcher to ensure that the participants and the data were protected, and to conduct research in an ethical manner (Litchman, 2014). No one was harmed through involvement in this study. This subsection reviewed the methods needed to maximize credibility, transferability, dependability, confirmability and the ethical procedures of this study.

Credibility

Credibility ensured the results derived from the data were legitimate and based on data (Coghlan & Brydon-Miller, 2014). Credibility for the data in this study began with ensuring that the study design and instruments used, the selection of the participants and the collection of data was described, identified, and accurate. For the close-ended questionnaire, I needed to safeguard that my instrument measured what it was intended to be measured for the study. This content validity was assured with the input of two content practitioners and one Reading expert and a director at ABCD Center with a terminal degree that reviewed the instrument. I used member checking as a measure of ensuring credibility. Member checking involved having interviewees review their interview transcripts for accuracy of communication and thereby improved the credibility of the research (Seidman, 2013). For the qualitative interview, therefore, I emailed the participants a copy of their responses to check for accuracy after I transcribed the conversation. All interviewees had the opportunity to member check before the final stage of reporting the information.

For my study, I ensured credibility through persistent observations of protocols; triangulation of data between the questionnaire, survey, researcher field notes; and the statewide data source on literacy professional development. I used recording devices to ensure that my transcription was as accurate as possible.

Transferability

Transferability was the ability for my study findings to relate to different settings and contexts (Coghlan & Brydon-Miller, 2014). The participants were selected to

maximize transferability and included as diverse a population geographically, by years of experience, and by gender as possible in the state of Texas. As nonfiction reading strategies were used in any subject with upper elementary and secondary school, I believed my topic results were transferable to those settings. The purposive stratified random sampling of third- through fifth-grade elementary teachers may have allowed for transferability to other third- through fifth-grade classrooms in the country (Allen, 2017). This thorough description and documentation helped practitioners and school leaders determine if this study could apply to their setting.

Dependability

Dependability was the ability of the study to be replicated the same way successfully in the future (Coghlan & Brydon-Miller, 2014). Dependability was achieved with full disclosure and transparency in how data was collected and transcribed, in addition to, how codes were formed and applied. It was the recording of thinking and actions that helped solidify the dependability for this study. Using triangulation, my audit trail, and field notes during data analysis improved the dependability of my research. Being transparent with the limitations of my study in my write-up helped with dependability. My approach to my research and thoroughness of implementation should help anyone who wishes to replicate my research.

Confirmability

Confirmability in research was the ability to confirm or corroborate the results (Coghlan & Brydon-Miller, 2014). Documentation followed the entire data collection and analysis process. Confirmability depended on how I kept researcher biases at bay during

the operation of the study. Using full disclosure and transparency in explaining the development of the findings helped with confirmability.

Ethical Procedures

To ensure that the highest level of ethical practices was present, I was very conscious of the ethical procedures that I used during my study. This practice was vital for my integrity as a researcher and the integrity of my research. From the beginning to the end of my research, I needed to maintain the ethical conduct principles of doing no harm, maintaining anonymity and confidentiality, having informed consent, and having truthfulness and accuracy in reported data (Litchman, 2014).

Treatments of human participants were done consciously and with attention. The participants who contributed to the study were not harmed during the course, or after the fact, of the research. This practice included psychological, as well as physical harm. I have looked at the phrasing of my questions very carefully. I gave reassurances during the study that none of the information shared with me reflected in a negative tone on them or be disclosed to their administration. If I started to feel like some of my participants were disturbed or upset by my questioning, I decided if I needed to stop the study for that participant. I thanked the participants for their participation at the end of their contribution.

Strict adherence for protection of confidential data was maintained. No identifying information revealed my participants during the study. Even upon my entering of their contributions to the database, they were assigned a number, thereby removing any identifying information. The write up of my research did not include the

names of the participants. At most, I may have referred to a participant as "a participant" or the grade level he or she teaches. Those actions on my part were to have met the expectation of privacy and confidentiality.

Having informed consent as the first page of my questionnaire and interview from my participants protected both the participants and myself. In my consent request, I made sure to outline the purpose and nature of the conducted study. When setting up the times for contact, I wanted to ensure that I was not intruding on their time by being reasonable on how long the investment was. On the first page of my questionnaire, I reiterated this information. I repeated the same information as I began each qualitative interview. This transparency of communication helped to assuage any concerns about participating in my study.

Reporting with truthfulness and accuracy the data and my findings helped build the trustworthiness of my study. I used my audit trail and field notes to give evidence of the coded data. By using a member check through emails, I was able to maintain the highest levels of integrity and avoid misstatements, misinterpretations, or skewed analysis. I wanted my study to impact the pedagogy and instruction of upper elementary students in the state of Texas, and the only way this could happen was if I remained true and accurate.

IRB approval of this study (10-12-18-0619464) was gained from Walden University. All records, audio recordings, documents, and field notes will be maintained for no less than 5 years on a USB stick and with a backup in the Cloud. This information

will only be accessed by me with the use of a password. It will be destroyed on October 12, 2023.

Summary

This investigation was an exploratory qualitative case study with three types of data: a questionnaire and interviews with participants and public information documents on districts that partook in the state approved professional development. This exploratory single case study purpose was to attain a deeper understanding of the pedagogical content knowledge of Texas upper elementary teachers who teach nonfiction reading comprehension strategies to at-risk students who did not qualify for special education services.

All teachers in Texas who teach nonfiction reading strategies to upper elementary students in grades 3rd through 5th-grade were invited to participate in the questionnaire. Participants who consented to a follow-up with me was pooled and stratified by grade-level for being randomly chosen for participation in an open-ended semi-structured interview.

Conducting a study with trustworthiness used ethical procedures and considerations. This ethical standard was protective and supportive for myself and my participants. Trustworthiness and ethical procedures started in the planning stages of a study and went through to the final write up. If I used ethical procedures and considerations, there should have been fewer questions about integrity, truthfulness, validity, and accountability of a study. It was my job to do my best that a safe

environment was maintained so that participants were at-ease and truthful so that I could get the quality of data that I was seeking.

In the next Chapter, Chapter 4, discussion of the results of the study will happen. Information on data collection, data analysis, evidence of trustworthiness, and findings will be presented in their own sections. Within the data collection, data analysis, and findings sections of the chapter, the information is broken down further by the questionnaire and the interview. Research questions will be addressed in this chapter.

Chapter 4

Introduction

The purpose of this exploratory single case study was to gain in-depth insight on the pedagogical content knowledge of Texas upper elementary teachers who teach nonfiction reading comprehension strategies to at-risk students who do not qualify for special education services. The central research question addressed how upper elementary teachers in Texas describe their pedagogical content knowledge for nonfiction reading comprehension strategies instruction, and three subquestions addressed how teachers viewed the building of their pedagogical content knowledge and their use of pedagogical content knowledge while preparing and instructing students. Three sources of data were used to answer the research questions: a questionnaire, an open-ended scenario-based interview, and public documents on reading professional development in the state of Texas. A qualitative case study was the most appropriate design for this study because the case represented the bounded system of the Texas education system for upper elementary grades. I used multiple data sources and analyzed data using open coding and inductive analysis. Data collection happened over a 3-month period. Data sources included 161 Texas third- through fifth-grade upper elementary teachers' responses to an e-mailed questionnaire, 10 teacher interviews, and public information documents on reading comprehension professional development sessions held throughout the state. All data were analyzed to gain a clearer picture of the nonfiction reading comprehension pedagogical content knowledge and instruction occurring in third through fifth grades in

the state of Texas. In Chapter 4, I explain the process of data collection and analysis, evidence of trustworthiness, and the findings from the study.

Setting

The setting for this study was third- through fifth-grade upper elementary classrooms in the state of Texas. The study took place during the fall and winter of the 2018-2019 school year. The holiday season may have influenced the number of responses to the questionnaire and the number of participants in the interviews. There were no changes to the instrumentation or the data analysis strategies as a result of this time frame.

Demographics

Participants in the study were third- through fifth-grade upper elementary teachers who taught nonfiction reading comprehension strategies in Texas to at-risk, LERD students who did not qualify for special education. All of teachers had to have been currently teaching any subject in third, fourth, or fifth grade during the 2018-2019 school year in a public school.

Data Collection

Following IRB approval of this study (10-12-18-0619464), data collection began. Data were collected between October 2018 and February 2019 through the use of electronic e-mailed questionnaires, audio-recorded interviews, and formal source documents on the numbers of participants from the state who took part in the Summer 2018 Texas Education Agency's Upper Elementary Reading Academy, a Texas reading professional development training session.

Questionnaire

An e-mail request through a Google Forms electronic questionnaire (Appendix B) was sent on October 30, 2018 to 102,746 prospective participants. Follow-up e-mails containing an additional request for participation were sent on November 12 and 26. After 6 weeks from the start date, on December 10, 2018, a total of 191 responses had been received. Within those 191 responses, 24 chose not to participate, four did not teach third through fifth grade, and two did not teach at-risk students, leaving me with 161 responses to analyze. Of the 161 Texas third- through fifth-grade teachers who chose to participate, 18 had 0-5 years of experience, 31 had 6-10 years of experience, 35 had 11-15 years of experience, 31 had 16-20 years of experience, and 46 had 20 plus years of experience. All 161 consented and responded to the questionnaire. The questionnaire was a dual-process questionnaire used as a screening mechanism and a baseline rudimentary analysis with no statistical inference. The data collected through Google Forms was imported to an Excel document in preparation for data analysis on December 15.

Although there were no variations in data collection from the plan presented in Chapter 3, there were unusual circumstances encountered in the data collection. I received the Texas Education Agency's data set of teacher e-mails from third through fifth grade. The original document sent from the Texas Education Agency had 109,761 entries. All of the data sent were from the 2017-2018 school year. Some of the entries were repeats as some teachers were assigned and taught a combination of third through fifth grade. Some entries were not connected to the teachers' e-mail as requested. Some entries were not correctly formatted. Some entries were for teachers who no longer

taught, were not at the campus, or no longer taught in the grade level associated with the document. After examining the data set, I was able to find 102,746 e-mails that were useable for my case study.

Interviews

The last question on the questionnaire asked the respondents if they were interested in participating in a follow-up five-question open-ended scenario-based interview. A total of 91 respondents assented and provided e-mails as point of contact. Those e-mails were organized into grade levels in an Excel document for simple reference to ensure stratified sampling. Randomly, from each grade level list, e-mails were pulled for further contact. Initially 15 follow-up emails were sent with an electronic invitation to interview (Appendix C) and a request for convenient scheduling times starting December 3. Sets of e-mails were sent three times at 2-week intervals to obtain 12 respondents. Each of the 90 respondents who originally assented to the follow-up interview was contacted at least once. Ten respondents (three from third grade, four from fourth grade, and three from fifth grade) were interviewed. Once a convenient time was set for both parties, a Zoom.us teleconference was scheduled and participants were sent a meeting ID and a URL with which to log in to on the scheduled conference. Through the Zoom.us website, the conferences were held, audio was recorded, and a file was saved to the local computer at the completion of the conference. When the interviews took place, interviewees were told that they would be referred to as a decimal number (grade level, order of interview) for confidentiality. They were never referred to by name after the

confirmation e-mail was sent setting the time for the interview. When transcribing the audio file, I documented the interview using the given code.

Although there were no variations in data collection from the plan presented in Chapter 3, there was one unusual circumstance encountered in the data collection. The interview completed with 5.2 was done via the Zoom Chat as the participant's audio was not working on her computer and she did not have access to a phone. The chat was recorded and saved in place of a recorded audio file. It was then copied and formatted into a Word file to be used for the data analysis.

Texas Regional Education Service Centers Reading Academy Roster

The Texas Education Agency provides upper elementary teachers with an opportunity to participate in the state sponsored literacy achievement academies (for third-grade teachers) and reading-to-learn academies (for fourth- and fifth-grade teachers). The goal of those upper elementary academies is to help teachers expand their pedagogical and content knowledge for the understanding and systematic use of "effective, research-based, and scientifically validated reading instruction methods" to better the achievement of their students (Texas Education Agency, Reading Academies, 2015a, para. 2). To determine how many teachers and districts participated in the Reading Academy in the summer of 2018, I contacted each of the 20 Texas Regional Education Service Centers in the state of Texas. The numbers reported to me were then compiled into an Excel spreadsheet by the abbreviation RESC (Regional Education Service Center) and a letter for anonymity and ease of calculation for the third data source.

There was a variation in the data collection from the plan presented in Chapter 3, as there was one unusual circumstance encountered in the data collection. Originally, the data were to be collected from the University of Texas at Austin's Texas Center for Learning Disabilities. However, after unanswered repeated attempts to get the number of participants from the state who participated in their reading professional development activities, I had to change tactics for my third data source. I still was looking at reading professional development from the state of Texas, but I needed to go to the Texas Education Agency. To get numbers for their reading academies, I was advised to individually contact each of the Texas Regional Education Service Centers, which I did. This was how I was able to gather the data for my third data source for triangulation purposes.

Data Analysis

The process of data analysis was completed as methodically as possible to maintain the integrity of the process. Measures were taken throughout the process to ensure confidentiality and anonymity.

Questionnaire

I used an Excel worksheet to catalogue the questions and respondent choices. Then I manually reorganized the data by the three research subquestions on a separate worksheet within the original document (Appendix D). All answer choices related to 16 questions about the practices and forming of pedagogical knowledge or content knowledge were placed under the RQ 1 heading in a separate worksheet of the original document. All answer choices related to the development of pedagogy and content

knowledge through 18 college or professional development questions in the areas of reading, at-risk learning, or at-risk reading were placed under a seconding heading, RQ 2. All answer choices related to four questions on differentiation or meeting student needs were placed under a third heading, RQ 3. The information within each RQ section was further organized and disaggregated by respondent years of service within separate sheets. The rows in each of the separate sheets were then numbered for anonymity and ease of referral during the data analysis process. I worked with five worksheets broken up by the years of service brackets, and each worksheet was divided into three sections related to the three research subquestions. This allowed me to focus on one segment of data at a time for data analysis.

After manually organizing the data, I began the task of analyzing the culled information. In my preliminary data analysis, I read through the data and did not take any notes. I wanted to familiarize myself with the questions and answers by simply looking at the perceptions, beliefs, and perspectives of the 161 respondents. I began with the master spreadsheet with no breakdowns to peruse all of the questions and answers for the first research subquestion and to get an overall impression of how the group as a whole answered. The first read was to look for trends across the data. I then conducted a second read through all of the questions and answers under the first research question by year of experience bracket to see the range of responses.

This questionnaire was close-ended and the analysis began with memos of my general interpretation regarding the frequency of the answers. With the third read, I began to make notations such as “strongly agreed to,” “wavering confidence,” and “seems to be

a lot of never." The memos I wrote were descriptive coding that covered any wonderings, thoughts, or surprises that stood out to me as I read so I could organize my first interpretations.

With my next series of reads, I began by focusing on each individual question associated with the first research question starting in the 0-5 years of experience bracket. I tallied the frequency of certain responses such as "all the time," "strongly agree," and "not adequately prepared." As I organized the data, I noted the most frequent of responses by question. For those that were infrequent, I tried to determine similarities. For example, if a participant responded as teaching a skill infrequently or rarely, I went back through to see how he or she responded to the question related to the frequency in his or her teaching of nonfiction reading, or to his or her reported pedagogical foundation to see if there was a relationship between the answers. I did this for each individual question. Once I completed all of the questions in this manner, I proceeded to the next years of experience bracket repeating the process.

After examining all of the years of experience brackets, I made a summary sheet with the answers from all of the years of experience brackets. On the Subquestion 1 worksheet, I wrote descriptive coding that reflected a summary of all of the years of experience findings for each individual question. Those summaries served as the foundation for the narrative developed for Subquestion 1.

This process was repeated for Subquestions 2 and 3. First, I obtained a general impression by looking at the responses as a whole. Then I developed a more detailed understanding by focusing on chunks to determine patterns, themes, or concepts that

emerged from the data by each years of experience bracket. Frequencies were tallied. Each subquestion received its own summary worksheet within the original document that reflected the data from the review of the individual questions by years of experience bracket.

Open-Ended Semi-structured Interview

My preliminary analysis of the interview responses began like the questionnaire, with a series of reads with no annotations or memos to familiarize myself with the findings. The first read of the transcripts was done in the order that the interviews took place as it was somewhere between the first interview and the 10th interview. I read to get a general sense of the respondents' perceptions, beliefs, and perspectives. With the second read, I read them in the order of grade levels then by years of experience brackets. With the third read, I read them in order of interview by grade level. It was with this final grouping, that I began actual coding.

The descriptive coding and analysis of the interviews began with looking at the transcribed Word documents. As I began the coding process, I used the transcription printed paper with a highlighter and pencil to underline and write memos to the side. Those annotations included what I wondered, thought, was surprised by, or something that stood out to me as I read so that I could organize my first interpretations. It was with this initial coding that I recognized that those transcripts would, just like with the questionnaire, need to be reorganized by research sub-questions for manageability.

I began to manually reorganize the interview questions and answers given by opening up eight separate Word documents, one for each interview question. Each Word

document had a table with the interview question in column 1 and answers in the order of the participant's grade level and interview number in column 2. Then line by line, I read each answer in column 2 closely as a means of analyzing and examining the responses. In column 3, I bulleted and typed notations or descriptive coding concerning responses, actions/interactions, or information that seemed important from each line. For example, the line read for 3.1 on the interview about changes to instruction over time was, "*Umm, I learned how to better read my students to what they need and it is,*" so I made a notation after highlighting ("*better read my students*") as a bullet code "*know students."*

I began the next phase of the analysis by making a separate Word document for each research sub-question that attempted to correspond the interview questions with a research sub-question (Appendix D). I then compiled the bullets for all of the questions under each research sub-question in an attempt to collapse the codes for the second cycle. I quickly realized that I first had to collapse the bullets into second-cycle coding for each interview as the line-by-line coding for research sub-question 1 had 147 bullets, research sub-question 2 had 253 bullets, and the research sub-question 3 had 219 bullets.

The next step of analyzing those data was to review each individual question, therefore, I collapsed the bullets in a separate Word document for the second and third cycle coding (Appendix E). For example, I grouped participant responses that spoke of "*a lack of confidence," "a lack of confidence or surety,"* and *"under confidence"* all fell under the code of "*reported lack of confidence.*" I did this process for all 147 bullets of research sub-question 1, which featured a response by the participant in relationship to how they saw student's struggle, and it resulted in 36 second cycle codes. The 253 bullets

for research sub-question 2, which focused on the building of pedagogy and content knowledge, were collapsed during the second cycle of coding, down to 37 codes. The third research sub-question contained 219 bullets that focused on perceived actions of differentiation to have met hypothetical needs of three students and were shortened to 23 codes.

The number of second-level categories was still too large and needed to be further collapsed. This was done during the third cycle of coding. For example, responses from participants that were coded as "*lack of confidence," "lack of drive/motivation," "feelings of frustration," "feelings of hopelessness,"* and *"not feeling successful"* were then collapsed into the third cycle coding of *"student affective."* Through third cycle coding, the 36 second-cycle codes for research sub-question 1 were collapsed into eight categories. The second research sub-question with 37 second-cycle codes was condensed into eight categories. The third research sub-question with 23 second cycle codes was collapsed into three categories during third-cycle coding. Now I felt that I had a manageable amount of data. Further specific information could be found in the Findings section of this chapter.

Texas Summer Reading Academy Participation

After getting no response from repeated requests for participant numbers of reading professional developments offered through the University of Texas at Austin's Texas Center for Learning Disabilities, I contacted the Texas Education Agency (TEA) to inquire if they could provide the information I needed to triangulate the patterns emerging from the questionnaire and interviews. The TEA indicated I would need to

contact each of the 20 Texas Regional Education Service Centers individually. I compiled an Excel document with the RESC and letters who showed the total participants from third through fifth grade that participated in TEA's Reading Academies for summer 2018. The third data source was used to support data I have from the questionnaires and interviews and sub-research question two. Further specific information can be found in the Findings section of this chapter.

Evidence of Trustworthiness

Credibility and Transferability

Credibility for this case study began with the study design and instruments safeguarded and used, participant selection and member checking, in addition to the adherence to protocols during data collection. The close-ended questionnaire and open-ended semi-structured open-ended scenario interview questions were reviewed, vetted, and validated with the input of two content practitioners and two terminal degreed experts: one in Reading, and one who was the director at ABCD Center for Reading. Participants were selected with the inclusion criteria of being a third-through fifth-grade teacher in the state of Texas who taught students considered at-risk, which made for transferability as those participants were diverse geographically throughout Texas, in years of experience, by gender, and subjects taught. Those participants were also given the option to receive a summary of the results from their questionnaire answers or audiotaped interview, of which three participated. Data collection techniques were adhered to as referenced in the first section of the questionnaire and interview. The randomized sampling of teachers allowed for transferability to other third- through fifth-

grade classrooms in any other states or countries, which helps with both credibility and transferability. The transparency in the description and documentation used in this case study will help practitioners and school leaders self-select if this study could apply to their setting.

Dependability and Confirmability

Full disclosure and transparency in how data was collected, transcribed, coded, the resulting themes, and the documentation of the audit trail ensures dependability and confirmability of the results from this study. Biases of the researcher were kept at bay during the process and data analysis of the study was competed through the use of memos and talking to other practitioners. The supervision of my doctoral committee during the data analysis phase of the study also contributes to a level of dependability and confirmability. Using triangulation between the questionnaire results, interview transcripts, and public records during the data analysis phase of the case study provided a level of dependability. Giving full disclosure and transparencies to the limitations that developed during the implementation of the case study also ensures dependability.

Results

The exploration of what third- through fifth-grade teachers report of their pedagogical content knowledge experience, the development of their content knowledge and skills, and the differentiation techniques used in the classroom for at-risk late-emerging reading difficulties of students required the data collection from three sources. The sources used were a close-ended questionnaire, an open-ended semi-structured scenario interview, and a publicly documented participation numeration of teachers in

upper elementary who participated in the summer 2018 Reading Academy offered by the state of Texas. Data from the questionnaire was tallied. An open coding using a descriptive word or short phrases on the interviews attributed to the identification of three themes in this case study that contributed to the findings narrative. I will refer to have teachers who participated in the questionnaire as respondents and teachers who participated in the interview by Participant and their codes.

The sample for this study consisted of 161 third through fifth-grade teachers in the state of Texas that taught at-risk students. The questionnaire was used as a screening mechanism and to collect self-reported baseline data with no statistical inference.

Questionnaire

Teachers who participated in the questionnaire were asked questions regarding their demographics, their teaching beliefs about the teaching of nonfiction reading comprehension, their teaching practices as instructional leaders within their classroom, and the professional developments that helped to build their background for teaching nonfiction reading comprehension to at-risk students. A complete accounting and break down of all respondents' answers may be found in Appendix F. Within in this appendix, tables will be presented with highlighted information chosen by me as being important to take note of.

Demographics. The respondents to the questionnaire were teachers with various levels of experience, certifications, and the building of backgrounds (Table 1). The most years of experience , 20 years or more, made up 32% of the respondents *(n=52)*. The highest degree awarded to 55% of the respondents (*n=89*) was a bachelor's degree and

most of the respondents *(n=113)* had earned their teaching credentials through their bachelor's degree (70%). The K-8 Generalist certification (43%) was the most reported from the respondents *(n=69).* When it came to the building of the pedagogy and content knowledge of nonfiction reading, respondents *(n=69)* stated that it had been more than 10 years since the last college course in reading (43%), nonfiction reading comprehension strategies (37%), or at-risk students (56%). Those respondent percentages indicated it had been 10 years or more since any college course was taken and his may lead to a more dated view of pedagogy.

Table 1

Demographic Data

Years of Experience	0-5 years	6-10 years	11-15 years	16-20 years	More than 20 years
	11%	19%	21%	19%	30%

Highest Degree Awarded	Bachelors	Masters	Specialist	Doctorate
	55%	41%	1%	3%

Earned Teaching Certificate	Bachelor's degree with teaching credential	Post-baccalaureate certification program (no degree awarded)	Master's degree with teaching credential	Alternative certification
	70%	1%	5%	24%

Certification Coverage	K or 1-4 Generalist	4 or 5-8 Generalist	K-8 Generalist
	39%	20%	41%

Last formal course:	In last 3-years	4-6 years ago	7-10 years ago	More than 10 years ago	Never
in Reading	16%	9%	25%	43%	7%
in Nonfiction Reading Comprehension Strategies	15%	8%	22%	37%	18%
in At-risk students	24%	8%	22%	33%	12%

Note. N = 161, due to rounding, not all rows equal 100%.

Teaching beliefs. Respondents were asked to report on their teaching beliefs of what grade level reading and strategies that they felt students must possess to be able to successfully navigate complex nonfiction text (Table 2). Fifty-six percent of respondents *(n=90)* agreed that reading at their grade level was a struggle for their students because they were still reading for learning with harder nonfiction material. Respondents strongly agreed that to comprehend complex nonfiction texts, students must be able to activate prior knowledge or build background (53%) (*n=75)*, inference (61%) (*n=86)*, generate

and answer questions (51%) (*n=72)*, visualize (49%) (*n=69)*, use text structure and organization (50%) (*n=71)*, monitor understanding and comprehension (60%) (*n=85)*, and be able to summarize (64%) (*n=90)*.

Table 2

Belief of Reading for Learning (RFL) and Skills Necessary for Success

Reading at grade level is struggle because of RFL and harder material.	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
	3%	14%	9%	56%	18%

Skills Necessary for Success:	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
Activating prior knowledge	8%	2%	0%	36%	53%
Inferencing	8%	2%	0%	28%	61%
Generating/ answering questions	8%	1%	4%	36%	51%
Visualizing text	8%	3%	2%	38%	49%
Text structure and organization	9%	1%	0%	40%	50%
Monitor understanding and comprehension	7%	3%	0%	29%	60%
Summarize	7%	2%	2%	25%	64%

Note. Reading struggles (*N* = 161), Skills Necessary for Success (n = 141), due to rounding, not all rows equal 100%.

Respondents *(N=161.)* were also asked to report the effect that school, districts, or state mandates had on their nonfiction instruction in their classroom (Table 3). The biggest inhibitors of instruction according to respondents was state testing and accountability policies (43%) (*n=69)*. The categories reflecting having a mixed impact on instruction by respondents was labels given to students (45%) *(n=72)*, district testing and accountability policies (44%) (*n=71)*, and student's general reading ability upon entering the grade level (43%) (*n=69)*. Respondents reported that the time given for planning (49%) (*n=79)*, time given for professional development (48%) (*n=77)*, and current state standards for subject (48%) (*n=77)* all promoted effective instruction.

Table 3

Effect of State and Local Policies on Nonfiction Instruction

Effect on Nonfiction Instruction	Inhibits effective instruction	Mixed	Promotes effective instruction	Not Sure
Current state standards for subject	5%	40%	48%	7%
District or state pacing guides	21%	43%	29%	7%
State testing/accountability policies	43%	34%	18%	5%
District testing/accountability policies	30%	44%	22%	4%
Students reading ability upon entering grade	19%	43%	32%	6%
Time for planning	21%	24%	49%	6%
Time for professional development	13%	33%	48%	6%
Label given to a student	22%	45%	22%	11%

Note. $N = 161$.

Instruction and leadership in the classroom. Respondents were asked to reflect on their generalized nonfiction reading strategy instruction within the classroom and themselves, as instructional leaders (Table 4). Fifty-four percent of respondents *(n=87)* reported that they alone delivered most of the nonfiction strategy instruction. More than 53% of the respondents *(n=85)* said they had more than 15 students labeled At-risk because they were departmentalized, meaning they teach multiple subjects to their students. When asked about their feeling of preparedness in teaching nonfiction reading strategies, respondents felt most prepared in teaching activating background and prior knowledge (51%) (*n=82)* and visualizing (50%) (*n=81)*. Respondents were also asked to report on how well prepared they are planning and implementing nonfiction reading comprehension strategies within their instruction in the classroom. Respondents reported being very well prepared to have taught nonfiction reading comprehension strategies to students (42%) (*n=68)*. When respondents were asked about their preparedness to plan instruction for different needs, 42% (*n=68)* reported feeling somewhat prepared. Additionally, respondents reported they felt somewhat prepared to have taught nonfiction

reading comprehension strategies to students who are late emerging strugglers or labeled at risk (41%) (*n=66)*. The respondents also reported somewhat being prepared (36%) (*n=58)* to differentiate nonfiction reading comprehension instruction to have met the needs of students who are late-emerging struggling readers or labeled at-risk.

Table 4

Generalized Nonfiction Reading Strategy Instruction (NRSI)

Provision of NRSI to whole class	Only from teacher	Teacher and someone else	Only from someone else		
	54%	29%	17%		

At-risk on roster	1-5 students	6-10 students	11-15 students	Departmentalized: more than 15	None
	11%	18%	16%	53%	2%

Preparedness of Content	Not adequately prepared	Somewhat prepared	Fairly well prepared	Very well prepared
Activating prior and background knowledge	0%	12%	37%	51%
Visualization	0%	16%	34%	50%

Preparedness of Instruction	Not adequately prepared	Somewhat prepared	Fairly well prepared	Very well prepared
in planning instruction for different levels	2%	25%	42%	30%
teaching nonfiction to whole class	2%	18%	37%	42%
teaching nonfiction to LERD or at-risk	9%	25%	41%	25%
differentiating to have met needs	8%	28%	36%	28%

Note. N = 161.

Respondents were asked to report on the structure of their planning and instruction in the classroom (Table 5). Both teaching reading strategy ideas for their subject to the whole class and checking for nonfiction comprehension of materials was reported by respondents as being done all the time (52%) (*n=84)*. Respondents reported

often (40%) (*n=64)* both planning comprehension lessons for their subject around the needs of their at-risk students and differentiating lessons to have met nonfiction comprehension needs. Respondents were, also, asked to report on how often they teach with direct instruction nonfiction comprehension strategies using modeling, think a-louds, and/or give opportunities for authentic practice. Respondents reported all of the time activating prior knowledge and background in lessons (63%) (*n=101)*, of using monitor understanding and comprehension and finding a fix in their lessons for their students (58%) (*n=93)*, and generating and answering questions during lessons (55%) (*n=89)*. The lowest reported skill taught by respondents was using text structure and organization all of the time (40%) (*n=64)*.

Table 5

Planning and Instruction Strategy

Planning and Instruction Strategy	Never	Rarely (A few times a year)	Sometimes (Once or twice a month)	Often (Once or twice a week)	All the time
Teaching reading strategy to whole class	2%	2%	9%	35%	52%
Checking for comprehension of nonfiction materials	3%	4%	8%	33%	52%
Planning comprehension lessons with At-risk in mind	6%	3%	13%	40%	38%
Differentiating lessons for needs	3%	6%	12%	40%	39%
Direct Instruction Strategies	**Never**	**Rarely (A few times a year)**	**Sometimes (Once or twice a month)**	**Often (Once or twice a week)**	**All the time**
Activating prior knowledge and background	0%	2%	6%	29%	63%
Generating and answering questions	0%	5%	11%	29%	55%
Text structure and organization	2%	5%	13%	39%	40%
Monitoring understanding/comprehension	1%	2%	10%	29%	58%

Note. $N = 161$.

In reflecting on beliefs as the instructional leader (Table 6), respondents reported agreeing (45%) (*n=72)* that nonfiction strategy instruction should be taught in all subjects. Respondents reported to be in agreement that inadequacies in a student's nonfiction reading background can be overcome by effective teaching (47%) (*n=76)*. Respondents strongly agreed (71%) (*n=114)* that to be an effective, teachers must know what they are teaching, how to have taught in general, and their students' strengths and weaknesses. To the statement that a late-emerging struggling readers who can read fluently but cannot comprehend just need more time in the subject, respondents reported as disagreeing (32%) (*n=52)*. Forty-eight percent of respondents agreed that a student with an at-risk label indicates that the teacher will need to approach teaching differently

(*n=77)*. Respondents reported agreeing (30%) (*n=48)* that differentiation is only effective if it is planned ahead of time for inclusion within a lesson.

Table 6

Belief as the Instructional Leader

Belief as the Instructional Leader	Strongly disagree	Disagree	Not Sure	Agree	Strongly Agree
Learning to read in upper elementary	0%	3%	2%	45%	50%
Instructors should not focus on reading if not a reading teacher or in curriculum	67%	25%	3%	3%	2%
Nonfiction reading strategies should be taught no matter the subject	0%	5%	6%	45%	44%
Inadequacies in background can be overcome with effective teaching	1%	5%	15%	47%	32%
To be effective, teachers should know content, instruction, and students	0%	0%	3%	26%	71%
Late emerging reading difficulties just need more time in subject	7%	32%	21%	25%	15%
A student at-risk needs instruction differently	1%	11%	10%	48%	30%
Differentiation needs to be done ahead of time to be effective	3%	20%	17%	30%	30%

Note. N = 161.

Professional development. Respondents were asked to focus on professional development in reading (Table 7), at-risk learning (Table 8), and at-risk reading (Table 9) they had participated in and report on specific dynamics of the courses as a means of having helped them build their pedagogy and content knowledge. Specifically related to reading professional development, 74% of the respondents *(n=104)*) reported that they had, as recently as the current school year, taken a course in reading and 43% stated it was assigned by the school or district (*n=61)*. The amount of the reading professional development that was focused on nonfiction reading was reported at 33% by respondents (*n=47*). Respondents reported in the reading professional development of somewhat seeing being used modeling (54%) (*n=76)*, classroom artifacts (41%) (*n=58)*, a follow-up (36%) (*n=51)*, collaboration at the district level (34%) (*n=48)*, and to a great extent

collaborated at the campus level (45%) (*n=63)*. Sixty-eight percent of respondents reported that they did not consider the reading professional development they participated in a waste of time (*n=96)*.

Table 7

Reading Professional Development (RPD)

Last participated in RPD	Current school year	Last year	Between 3-5 years	Between 6-10 years	More than 10 years	
	74%	16%	7%	1%	1%	
Type of RPD	Assigned	Choice offered	Reading association	Learning Committee		
	43%	37%	12%	8%		
Amount of RPD focused on nonfiction	Less than 10%	11-25%	Closer to 50%	Between 50-75%	All of it	None of it
	16%	33%	24%	16%	9%	1%
Extent of opportunities to:	Not at all	Somewhat	To a great extent			
see modeling	11%	54%	34%			
examine classroom artifacts	32%	41%	27%			
follow-up	30%	36%	34%			
school collaboration	13%	43%	44%			
district collaboration	34%	48%	18%			
waste of time of RPD	68%	25%	7%			

Note. n = 141.

Fifty-two percent of the respondents *(n=61)* reported that they had, as recently as the current school year, taken a course in at-risk learning and 53% stated it was assigned by the school or district (*n=62)*. In the at-risk learning professional development, reported techniques by respondents included somewhat seeing modeling (48%) (*n=56)*, classroom artifacts (41%) (*n=48)*, had a follow-up (45%) (*n=53)*, and collaboration at the campus level and district level (46%) (*n=54)*. Sixty-six percent did not consider the at-risk learning professional development they participated in a waste of time (*n=77)*.

Table 8

At-Risk Learning Professional Development (ALPD)

Last participated in ALPD	In the current school year	Last school year	Between 3-5 years	Between 6-8 years ago	More than 8 years
	52%	29%	15%	4%	0%

Type of ALPD	School or district assigned	Choice offered by school or district	Reading teachers association	Professional learning Committee
	53%	35%	7%	5%

Extent of opportunities to:	Not at all	Somewhat	To a great extent
see modeling	21%	48%	30%
examine classroom artifacts	32%	41%	27%
follow-up	27%	45%	28%
school collaboration	13%	46%	41%
district collaboration	38%	46%	16%
waste of time of ALPD	66%	29%	5%

Note. $n = 117$.

Fifty-eight percent of the respondents *(n=56)* reported that they had as recently as the current school year taken a course in at-risk reading and equally 42% stated it was assigned by the school or district or taken by choice offered by the school or district (*n=40)*. In the at-risk learning professional development, reported techniques by respondents included somewhat seeing modeling (57%) (*n=55)*, classroom artifacts (51%) (*n=49)*, had a follow-up (49%) (*n=47)*, collaboration at the campus level (48%) (*n=46)*, and collaboration at the district level (44%) (*n=42)*. Sixty-eight percent of respondents did not consider the reading professional development they participated in a waste of time (*n=65)*.

Table 9

At-Risk Reading Professional Development (ARPD)

Last participated in ARPD	In the current school year	Last school year	Between 3-5 years	Between 6-8 years	More than 8 years
	58%	19%	17%	5%	1%

Type of ARPD	School or district assigned	Choice offered by school or district	Reading teachers association	Professional learning Committee
	42%	42%	9%	7%

Extent of opportunities to:	Not at all	Somewhat	To a great extent
see modeling	11%	57%	32%
examine classroom artifacts	24%	51%	25%
for follow-up after use in classroom	20%	49%	31%
school collaboration	13%	47%	40%
district collaboration	33%	44%	23%
waste of time of ARPD	68%	28%	4%

Note. $n = 96$.

After reporting on their perspectives of the focused professional development on reading, at-risk learning, and at-risk reading, respondents were next requested to report on the end learning of the professional development (Table 10). Fifty-three percent of respondents reported that the professional development somewhat deepened reading content knowledge (*n=85)*, 53% taught them how to have taught nonfiction reading in a subject (*n=85)*, and 51% reported it helped them to gain an understanding of the difficulties students may have with nonfiction reading for a subject (51%) (*n=82)*. Respondents, also, reported that they felt they somewhat better understand how to check with student what they think or already know about nonfiction reading strategies prior to instruction (53%) (*n=85)*. Respondents reported they were somewhat given the foundation to integrate a nonfiction reading program within the classroom (37%) (*n=60)*.

In looking at all of the professional development participated in, respondents reported that somewhat of an understanding was gained on how to plan instruction for at-risk student success (38%) (*n=61)* but 50% reported to a great extent gained an understanding of how to monitor *)* and assess understanding by students (*n=81)*.

Table 10

Understandings From All Professional Development

Reported Understanding and End Learning	Not at all	Somewhat	To a great extent
Deepening of own reading content knowledge	17%	53%	30%
Learning how to have taught subject nonfiction reading comprehension	13%	53%	34%
Learning about difficulties that students may have	17%	51%	32%
Finding out what students think or already prior to instruction	23%	51%	26%
Implementing a nonfiction reading strategy instruction program	27%	37%	36%
The planning of instruction so at-risk students can increase their understanding and comprehension	25%	38%	37%
Monitor understanding of student during reading instruction	12%	38%	50%
Assessing student understand and comprehension	11%	39%	50%

Note. N = 161.

Interview

The interviews were conducted with 10 teacher participants. I placed all data third cycle coding into an Excel document by research sub-question looking for emerged key elements that helped to generate themes. Additionally, those key elements helped in building a general picture of the description of how upper elementary teachers in Texas build and use their pedagogical content knowledge for nonfiction reading comprehension strategies instruction (see Appendix F). Three themes emerged through all of the data coding of the open-ended semi-structured scenario interview in relation to the three research sub-questions. Those themes were grooming, driving force of instruction, and differentiating vs. rescuing.

Theme 1: Grooming. Grooming, as being used in this study, is the on-the-job training that takes place where connection, collaboration, and support is offered by colleagues, administrators, and auxiliary staff to help a teacher build his or her skill base in the instruction of nonfiction reading. This theme emerged from the interviews with each of the participants in response to the questions regarding what, in their opinion, had most helped them in preparing to have taught nonfiction reading strategies in the classroom. Participant 3.2 reported that the "on-the-job training" is what prepared her most for teaching nonfiction reading to her students.

Collaboration with peers was a way that respondents reported the building of their pedagogy and content knowledge and encompasses the grooming, or on the job training. Participant 3.3 reported "working with some really strong teachers" that helped her out. Participant 4.1 reported "at any time that I don't know something or need help with something, I can just phone a friend, a colleague, to get the help I need." Participant 4.2 reported that it was "colleagues and being blessed with principals in the past who have sent me to every training I wanted" that helped her to be the teacher of reading that she is today. Participant 3.3 gave credit to "some really strong teachers who helped me out and on-the-job training" as to what helped her the most in teaching reading strategies. Participant 4.3 divulged that a really strong "fourth grade team is what guided me in teaching reading when I first started." Collaboration seemed to help build the pedagogical foundation.

On-the-job training, or what this study refers to as grooming, can be mandated or completed by choice and take the form of a professional development session. For nine of

the participants, professional development was also credited for helping to build their knowledge of how to have taught nonfiction reading. Participant 5.4 addressed this finding during her interview by stating that she had received "more in-depth training over the last three years regarding newer reading research provided by my district experience which has helped me as a teacher". Participant 5.2 shared that it was "new strategies for reading comprehension [given] during staff development" that helped prepare her for teaching nonfiction reading. Participant 4.4 stated that "PD [professional development] is what mainly helped prepare and helped me to have taught reading." It was even suggested that professional development in nonfiction reading should happen for other content areas as well. Participant 3.1 felt that reading professional development should be included in content professional development, like math, as "I realize now we are all reading teachers and nothing has prepared me to have taught nonfiction reading strategies in Math, even though we do reading in math."

The state of Texas may also be recognizing the importance of grooming or on the job training for the classroom. The Texas Education Agency, through their regional education centers, a literacy achievement training called Reading to Learn. In the summer of 2018, 1,322 third- through fifth grade teachers committed to participating in the 15-month professional development series that included five days of summer training and additional training throughout the year with access to instructional coaching and differentiated learning pathways. This professional development is built to maximize the learning and its influence on instruction in the classroom.

Interestingly, nine of the participants went so far as to say their specialization in college or alternative certification courses did nothing to help them teach nonfiction reading. Participant 3.2 described that her specialization was in reading "even though, it did not prepare me to have taught nonfiction. The only nonfiction reading we did was with graphic organizers." Participant 4.1, who is alternatively certified, stated he went alternatively certified because "when [he] was in [his] senior year as that was the quickest way to get certified without having to do all of the extra. Helped me to take the test but very little for teaching." Those responses may give additional credit to the importance to on-the-job training.

The grooming, or on-the-job-training, that takes place seemed to influence the instruction within the classroom. One of the questions asked during the interview was how did the participants see their instruction changing over time. Participant 3.3, in her 0-5- years of experience, felt "each year I come across a new demographic [of students] that I can work with and improve so that I am adjusting and learning." Participant 4.4, with 16-20-years of experience, responded that instructing in the class had "completely and 100% change. My first teaching was a lot of lecture and assignments and now instruction is a very minor part in front of the whole class. There is the inclusion of a lot more small group." Participant 5.2 simply summed up the change in her instruction over the last 24 years as "differentiation being done." The change seen over everyone's years of experience seemed to be in response to the training and the changed needs of the students.

Theme 2: Driving force of instruction. The driving force of instruction is the convergence of knowledges that make the base for teaching. Convergence of knowledges serves as the foundation for effective instruction in the classroom. Those knowledges include, as related in Theme 1, having knowledge about teaching nonfiction reading and content knowledge, via collaboration or professional development that is important to effective instruction. and begins as the base of instruction. Participant 4.3 reported that to be effective she was "require[d] to lay the foundation ahead of time." Added to that base is also knowledge of the student needs. Participant 4.4 stated the relationship you form with your students is what helps you "to address kids where they are at." What at times maybe overlooked in the base of instruction is the teacher's efficacy in teaching nonfiction students. This theme emerged from the interviews with each of the participants in response to the questions regarding what, in their opinion, were the struggles they viewed their students having with nonfiction reading and how they characterized their ability in teaching those struggling students.

Reported by participants during the interviews were student struggles with the rigor and complexity of text, as well as, students' emotional responses to the struggle. Participant 5.1 reported that "the complexity of nonfiction [makes it] a struggle for at-risk learners to feel successful in the strategies we are teaching because most of it is at grade level and my at-risk learners are not usually on grade level." Participant 4.3 reported the "level of text, length of text is very intimidating, and level of readability of text is really hard and the way the content is organized is tough for them to follow." Participant 4.1 reported that with some of his at-risk students the readability, complexity, and level of the

text was so above their level that "I saw it in their eyes 'I'm done, I have tried, I give up.'" Interview 3.1 stated that "when everything is so hard and you are not getting anything than its easy to give up." This then led, according to the participants, noted struggles with motivation (3), interest (4), endurance (5), and lack of confidence (7).

However, those struggles were not limited to the students. Participants also noted similar struggles when commenting on their view of his or her ability to have taught those students that struggle. The struggles related to have meeting the needs of at-risk students stems from the level of reading that students enter the grade level along with skill deficits. However, interestingly, communicated recurrently was that the struggles perceived by the participants had nothing to do with the individual student needs and all to do with respondents' mindset (5), previous experiences or focus (6), and resources (4). Participant 4.2 noted that "part of the reason [for the struggles] is because there is no definition that follows every at-risk child. They are unique and have unique needs." Participant 4.1, with between 0-5-years of experience, reported that he often feels frustrations with "student who may have slipped through the cracks and they should not have." Participant 3.1, with 11-15 years of experience reported, "It's hard for me to figure out what are the struggles and it frustrates me because I can't understand what's going on in [their] heads and they sometimes can't tell me. I get frustrated because I can't fix it." Participant 4.2 with 11-15 years of experience concurs with the sentiments of Participant 3.1 and goes so far as to report, "I am struggling on trying to figure out how to help them. It's not the students; it's me and I know I gotta figure something out than what I am doing to help those kids." Participant 3.1 described the experience of teaching at-risk at

times “as though I am against a wall that I can’t see around or through.” When asked about a description of how the interviewees perceived their ability in their teaching of nonfiction reading to at-risk students, nine of the participants had a negative response. Repeatedly, words or phrases describing frustration (8), struggling (5), or being unqualified (2) were reported by participants. Participant 4.4 summed up her experience by reporting “it can be frustrating for me when trying all of this stuff and sometimes [it] does not work.” However, Participant 4.4 did follow up this statement: “It can all be very frustrating and struggle but I love my job and this is part of it.”

This mixture of negative and positive was not in isolation. In addition to Participant 4.4, three additional participants ended on a positive note despite the negative emotions expressed. Participant 3.1 feels that she is “driven to work with those kids-the ones who need the help the most as I don’t want them to struggle like I did”. Participant 4.1 stated that working with those students is “challenging and rewarding when you can help those kids.” Participant 3.3 stated that working with those students “can be a struggle but it’s worth it.”

Theme 3: Differentiating vs. rescuing. Differentiation for this study primarily explored how teachers use their pedagogy and content knowledge to differentiate, or adjust, their instruction, the resources, or the final product to have met the needs of their at-risk students. Differentiation is rooted in a combination of a teacher’s knowledge of his or her students and the knowledge possessed about pedagogy and content. This theme emerged from the interviews with each of the participants in response to questions regarding how they would differentiate their lesson based on the characteristics described

of three hypothetical at-risk students.

In the state of Texas, a label is placed on students who show signs of being at-risk for academic failure, whether that be through failure of the state assessment or failure to have met grade level expectations. The at-risk label travels with them as they move through the educational system and teachers are made aware starting at the beginning of the school year.

All participants (10) came up with differentiating or scaffolding techniques to help Johnny, the hypothetical student who had good reading fluency but could not comprehend. Nine of the participants came up with differentiating or scaffolding techniques to help Sally, the hypothetical student who read fiction well but struggled with identifying key details. Nine of the participants came up with differentiating or scaffolding techniques to help Tommy, the hypothetical student who takes a long time to read and has struggles with metacognition strategies. One participant who struggled to answer or come up with a response for both Sally and Tommy has only been teaching for three years and felt that their "teaching strategies toolbox was on empty" and that was the reason they felt they had not given an adequate response.

Johnny. For Johnny, most participants were focused on actions that were done by themselves for the student (7), on monitoring understanding and comprehension (6), and requiring him to show his thinking through annotation (4). Participants also spoke of modifying the assignment or chunking it (5) due to the student characteristic inferred that he is "taking a long time to do it" (3) despite the scenario not stating such. The differentiation noted from participants answers beyond changes to the material for

Johnny were changes to instruction (9) used a gradual release model, small group, or working one on one. Participant 5.1 planned to pull him into her small group and "highlight key details for him as that would probably support his learning best." Participant 5.2 would pre-teach the information and "highlight the information or box with colors the information [in the reading] for the different areas of the graph." Participant 3.2 would "chunk the reading, only giving him one section at a time." Participant 4.2 was the only one who noted that the end product would be differentiated for Johnny to where "we would do the whole passage together and do that representation together."

Sally. For Sally, most participants were focused on actions that were done by the student (7) through highlighting key details (5) and using a graphic organizer (6) based on previous experiences with students in the teacher's past that were like Sally (7). Participants focused their answers on the inferred need for text structure (6) by Sally, although this was not mentioned in the scenario. Participant 4.3 stated that students, like Sally, who struggle with any type of comprehension often "don't pick up on the text structure patterns because developmentally they are not ready." Participant 5.4 concurred with Participant 4.3 by stating that Sally would benefit in her, the teacher, "giving lessons breaking the text down by paragraphs or subtitled section," as this would help her to focus on the main idea and topic.

Tommy. For Tommy, most of the participants focused on changing the material (6), instruction (7), or the final project (4) as a means of meeting his needs. Six of the participants would have Tommy annotate his thinking to the side of his paragraphs

through words, phrases, or pictures. This time participants were given the characteristic of it taking the hypothetical student a long time to read. This is what 8 of the participants honed in on in their responses to how they would differentiate for Tommy's needs. Participant 3.1 stated that she would "modify the assignment or chunk it down to only its essence so they only had to focus on what was needed for the activity." In Participant's 3.1's response she stated she would also need to consider "Am I looking at his capability to read or am I looking at his capability to make a chart?" Participant 5.1 stated that she would "find a similar text or alternate article that is not so long as the regular class is getting." Participant 4.4 would have the whole assignment done as a group and "have a big, gigantic table poster for all of us working on the chart." Participant 5.2 would "modify his work so that he would only show a portion of the material on the graph." Only Participant 3.3 focused on using a gradual release that would have Tommy working independently at the end of the project as "using 'I Do, We Do, You Do' is a strategy that is kind of self-monitoring and [he]will find success."

All of the participants' responses (10), were focused on differentiating to have met a stated or assumed need on a hypothetical student. However, observed in the analysis of all responses to the three hypothetical students was the recurrence of an imbalance between the teacher's actions for the student and what the student would be doing for themselves. In Johnny's responses, the participants described 15 teacher-led action compared to 10 student-led action. In Sally's responses, the participants described seven teacher-led actions compared to six student-led actions. In Tommy's responses, the participants described 11 teacher-led actions compared to four student-led actions. The

imbalance noted, especially with Johnny's responses and Tommy's responses, may show a tendency of teachers to rescue students from their difficulties for ease of assignment or task versus working with them to learn the skill. It is inferred that if teachers are rescuing at-risk students to make learning easier for them, and never advancing the complexity or lessening the need by addressing areas of improvement; then students may find success but not learn to independently work or reach predetermined grade level standards. This may be a possible explanation of why at-risk repeatedly in upper elementary in Texas at the local and national level are displaying poor assessment scores and repeated failures year after year.

Research Question Findings

The purpose of this exploratory single case study was to gain a deeper insight on the pedagogical content knowledge of Texas upper elementary teachers who teach nonfiction reading comprehension strategies to at-risk students who do not qualify for special education services. The central question: How do upper elementary teachers in Texas describe their pedagogical content knowledge for nonfiction reading comprehension strategies instruction? Answering this question, required a step-by-step approach through the use of sub-research questions. Sub-research question 1 asked third-through fifth-grade teachers to report about their pedagogical content knowledge experience in teaching expository text comprehension to upper elementary students. Sub-research question 2 asked third-through fifth-grade teachers to report how they developed their content knowledge and skills to instruct expository text comprehension. Sub-research question 3 asked third-through fifth-grade teachers to report on the

differentiation approaches they would implement with their instruction to have met the needs of at-risk, late-emerging reading difficulties students. This case study used responses to a questionnaire, participants in an open-ended semi-structured interview, and one public data document on the number of participants who took part in a state sponsored reading professional development together to help to formulate a response.

Subquestion 1. What do third- through fifth- grade teachers report about their pedagogical content knowledge experience when teaching expository text comprehension to upper elementary students?

The pedagogical content knowledge experience when teaching expository text comprehension to upper elementary students is complicated by the reported conflicting paradigms present in classrooms causing struggles for students and teachers. The paradigm used for nonfiction comprehension instruction is a driving force. Seventy-four percent of respondents *(n=119)* identified and agreed that reading at the grade level is a struggle because of the expected reading for learning paradigm used with more difficult material. At the same time, respondents acknowledged and agreed (95%) (*n=153)* that students are still learning to read in upper elementary. Those two paradigms are in conflict with each other. Participant 5.1 reported that "the complexity of the nonfiction [makes it] a struggle for at-risk learners to feel successful in the strategies we are teaching because most of it is at grade level and my at-risk learners are not usually on grade level." Participant 4.3 reported the "level of text, length of text is very intimidating, and level of readability of text is really hard and the way the content is organized is tough for them to follow."

Participants report students who are considered at-risk and have problems with comprehension often face struggles that impact the whole child, from their inner affective and belief in their capabilities (6) to their behaviors (4) with a lack of perseverance (5) and strategies needed during reading (7). Participant 4.2 reported that the struggle with comprehension for at-risk students is "like an unbreakable code." Those issues reported by participants may be exasperated by the student's lack of background (3), the complexity and rigor of text (9), and lack of ability to monitor comprehension (6).

Participants report teachers of at-risk students struggle with the teacher's perspectives in their limitations as instructors. Participant 4.4 reported that it was "frustrating for me when trying all of this stuff [strategies] and nothing works." Although seemingly negative in reporting, participants were driven in their instruction of at-risk students by how they viewed their previous experiences and perception of their success or failure as a teacher. Participant 3.3 reported that "us teachers, are like OK, I gave you this wonderful strategy and it was beautiful and you did it for me one day and now do it again." The perceived struggles reported were not as centered on the individual student needs and all to do with teacher's mindset, focus, and resources. Participant 5.4 reported, "I am very comfortable teaching nonfiction text because I like it." Conversely, Participant 3.2 reported "I did not like nonfiction as a child and didn't use it or feel I was good with it teaching until the writing got better. Now, I can use it with students and we learn together." Participant 5.1 reported "I have difficulties and find it frustrating that I can't find the leveled materials that my at-risk students need to be successful." In none of the interviews was it reported that it was a student's inability caused failure; rather it was the

complexity of the reading or the failure of the teacher in meeting students' needs. Those findings seem to support the sentiment that struggling comprehension during the shift may be the result of a lack of the ability on the student's part to apply the complex and metacognitive skills necessary to process the information being presented.

Subquestion 2. How do teachers of upper elementary report developing their content knowledge and skills to instruct expository text comprehension?

Teachers of upper elementary report developing their content knowledge and skills in instructing expository text comprehension from a variety of sources to include a bachelor's degree program with teaching credentials (70%) *(n=113),* alternative certification (24%) *(n=39),* professional development (7*)*, and peer collaboration (5). Participant 4.1 reported, "The alt cert program did an excellent job of preparing me to take the test, but in the end did very little for actually preparing me for the classroom." Participants reported that the development on their pedagogy and content knowledge had little to do with their formal courses (8) and more to do with peer collaboration (7) and professional development (8). Participant 5.4 reported that she "learned how to have taught reading from personal knowledge, professional development, and other peers." Participant 3.3 reported, "on-the-job training and professional development [and] I have been lucky to be working with some really strong teachers who also help me out." Participant 5.1 reported, "I've gone to multiple trainings that have helped me, uhh, learn how to help students approach nonfiction reading." Participant 4.4 reported, "I would have to say that PD is what mainly helped prepare and helped me to have taught reading." It is the collaboration with others through professional development that

happens in on-the-job training that was most reported as being the source for building the foundation to have taught nonfiction reading comprehension.

Collaboration with peers was another way that participants reported the building of their pedagogy and content knowledge. Collaboration was found at the campus level throughout all reporting from respondents and participants. In the interview, participants reported their peers (7) as having helped them to learn how to have taught nonfiction reading comprehension. Participant 4.3 stated a strong team "guid[ed] me and help[ed] me" and her principal "blessed and allowed me to go in and spend lots of time observing her top teachers." Participant 5.1 reported that she grew the most in her nonfiction reading comprehension instruction through the help of "a mentor teacher who opened me up to new ideas and best practices which benefitted my instruction for my kids." Collaboration seemed to be consistently used as a means of getting the on-the-job training.

Subquestion 3. What differentiation approaches do upper elementary teachers implement with their instruction to have met the needs of at-risk, late-emerging reading difficulties students?

The differentiation approaches that upper elementary teachers report implementing with their instruction to have met the needs of at-risk, late-emerging reading difficulties students is based on the understanding that something needs to be adjusted to reach the level of learning required at the grade levels. Ten of participants responded they would differentiate to have met student needs. Seventy-eight percent of respondents *(n=126*) report agreeing to the statement that a student with an at-risk label

needs to have instruction approached differently. Respondents reported agreement (97%) (*n=156)* that to be an effective teacher the teacher should know content, instruction, and students and 6 agreed for differentiation to be effective it must be planned ahead of time. Participant 4.4 reported that the relationship is what helps you "to address kids where they are at." This is the key to differentiation. Respondents reported 39% of the time they actively planned comprehension lessons for their subject around the needs of the at-risk students (*n=63)*. Forty-three percent of respondents reported being fairly well prepared to plan instruction so students at different levels of achievement can increase their understanding of the ideas targeted in each activity (*n=69)*. Respondents, also, reported that they feel only fairly well or somewhat well (64%) (*n=103)* prepared to differentiated nonfiction reading comprehension instruction to have met the needs of students who are late-emerging, struggling readers or labeled at-risk. It is inferred that there is knowledge by teachers that differentiation should be done to have met the needs of the students, but insecurities on how to do it.

The struggles related to have meeting the needs of at-risk students stems from the level of reading that students enter the grade level with along with the deficits in skills. Participant 4.2 noted that "part of the reason [for the struggles] is because there is no definition that follows every at-risk child. They are unique and have unique needs." Most of the differentiation reported by participants was to the materials and instruction techniques used with the hypothetical at-risk student. Participants reported looking for easier material or material on a lower level (6) to differentiate for the students. Participants reported most often chunking the assignment (9), highlighting key details by

either the teacher or student (7), having students annotate through words or phrases next to the material (7), and making the learning more individualized using a gradual release model, small group, or one-to-one to work with the students (7). Only once (1) was differentiation to the end product reported by participants. The attempt with all of those differentiation techniques was to help the student access the material and find success.

Summary

The purpose of this exploratory single case study is to gain more in-depth insight on the pedagogical content knowledge of Texas upper elementary teachers who teach nonfiction reading comprehension strategies to at-risk students who do not qualify for special education services. In this chapter, I presented detailed information on how I obtained my sample, how data was collected using three data sources, and how it was analyzed using open coding and inductive analysis. The data sources included 161 Texas third-through fifth-grade upper elementary respondents to an emailed questionnaire, 10 teacher interviews, and a public information document on reading comprehension professional development sessions held throughout the state. I presented the emerged detail findings of the questionnaire, the emerged themes of the interviews, and answered the three sub-research questions using the findings.

In Chapter 5, I will discuss the study's strengths, limitations, recommendations for future studies, and implications for social change. I will also discuss recommendations for what to consider with future nonfiction reading comprehension instruction and at-risk, late-emerging reading difficulty students.

Chapter 5: Discussions, Conclusions, Recommendations

Introduction

After a shift in upper elementary reading that emphasized complex learning through the use of nonfiction text, a concern in Texas schools emerged when data from 2013-2018 showed low performance in reading comprehension scores. A third of upper elementary students were unable to meet minimum grade-level comprehension, which led to an at-risk label and continued academic struggle and failure (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2016, 2015b; Texas Education Agency, 2013, 2014, 2015b, 2016, 2017a, 2018a). The purpose of this exploratory single case study was to gain in-depth insight on the pedagogical content knowledge of Texas upper elementary teachers who teach nonfiction reading comprehension strategies to at-risk students who do not qualify for special education services. The central research question addressed how upper elementary teachers in Texas describe their pedagogical content knowledge for nonfiction reading comprehension strategies instruction. Three subquestions addressed how teachers view the building of pedagogical content knowledge and their use of pedagogical content knowledge while preparing and instructing students. Chapter 5 includes my reflections and conclusions on the reported pedagogical content knowledge used in upper elementary classrooms, including how this knowledge is developed. I also present the social change implications of this study. Finally, I discuss the applications and directions for future research.

Interpretation of Findings

Key findings indicated a paradigm conflict between reading to learn and learning to read that exists in upper elementary classrooms. This conflict can lead to struggles with teachers and students in meeting grade-level demand. To help with the struggles and grade-level demand for nonfiction reading comprehension, most teachers reported using collaboration with peers or professional development as a means of developing their pedagogy and content knowledge. Teachers reported the use of several sources of knowledge required for effectiveness of instruction in the classroom, which aligned with the conceptual framework of Shulman's (1986) pedagogical content knowledge model. When it comes to using their pedagogy and content knowledge to meet the needs of students, teachers must also know their students to differentiate effectively. The combined knowledges required for effectively meeting student needs in the classroom aligns with Shulman's (1986) pedagogical content knowledge model, as well as Tomlinson's (2013) differentiated instruction model. Differentiation occurs at the classroom level and is individualized; however, according to participants in the current study, the style seems to be more like an attempt to rescue students from their struggles rather than giving them the skills necessary to succeed.

Much is done in classrooms to teach nonfiction reading comprehension to upper elementary students that does not align with the literature reviewed in Chapter 2. The results from the current study indicated that a possible cause for longitudinal scores nationally and locally was not a lack of teachers' pedagogical content knowledge level of nonfiction reading instruction and skills, as indicated in the studies of Clarke et al.

(2017), Droop et al. (2016), Griffith et al. (2016), and Sibberson and Szymusiak (2016). Findings from previous studies indicated that little instruction was offered to students in how to comprehend nonfiction or instructional text (Durkin, 1978; Johnson, 2018; Ness, 2015; RAND Reading Study Group, 2002). However, participants in the current study reported using instruction, gradual release, small groups, and other techniques to help students comprehend material. There was no indication that teachers struggled to identify the specific needs of students. Additionally, there was no indication that teachers were struggling with knowing how to address students' needs, as Moreau (2014) and Gaitas and Martins (2017) found, unless they had little or no experience.

One of the struggles reported by participants seems to have derived from the opposing paradigms of reading to learn and learning to read (see Leidig et al., 2018). The results from this study were consistent with Leidig et al.'s (2018) finding that struggling comprehension during the shift may be the result of a lack of ability on the student's part to apply the complex and metacognitive skills necessary to process the information being presented.

I found that teachers of upper elementary students reported using the pedagogy and specialized curricular understandings to teach, as presented by Shulman (1986). This capability by teachers is a convergence of knowledge crucial for effective teaching. Teachers, through their responses and participation, also acknowledged that teachers' knowledge of students is essential for effective teaching. Teachers also reported that adaptation of the individualized learning, or differentiation to instruction, to meet the needs of students is effective for instruction. Teacher grooming, or on-the-job training,

through collaboration or professional development was used to increase the knowledge base for reading instruction, at-risk learning, or at-risk learning that was used in the classroom.

However, teachers reported that the reading instruction professional development was missing an emphasis on nonfiction techniques. This finding was consistent with results from previous studies (Cirino et al., 2013; Fisher & Frey, 2015; Hughes & Parker-Katz, 2013; Massey, 2014; Simmons et al., 2014; Stead, 2014) regarding teachers' lack of exposure to nonfiction text reading comprehension strategies, which could lead to students' struggling to master skills associated with comprehension information and may be connected to low reading achievement scores. Nonfiction requires a different skill set by the students and a different skill set in instruction by the teachers.

Finally, differentiation was reported by the 161 survey respondents and the 10 interview participants as being necessary to meet the needs of students. Examples of differentiation reported for reading were teachers' groups, individualizing instruction by focusing on the needs of students in reading, or modifying a task or text to be used for comprehension through chunking or highlighting. These examples were consistent with the findings from Keene and Zimmerman (2013), Moos and Pitton (2014), Puzio et al. (2015), and Tomlinson (2000). Interview participants noted that explicit instruction of skills was necessary for success to meet the hypothetical student's needs. However, the teacher's attempts at meeting student needs went beyond supporting the needs and seemed to stray into the rescuing area. Participants reported that they would modify instruction or modify the requirements for an assignment so that there was a sole focus of

promoting success for the student. This finding was consistent with the study of Gaitas and Martins (2017), who found that there can be a difficulty with differentiating to meet students' needs. Rescuing students by enabling them not to complete the whole process can cause them not to grow and may be a factor in why assessment scores locally and nationally remain low for the at-risk population.

Limitations of the Study

The purpose of this study was to obtain more in-depth insight into the background and instruction that upper elementary teachers in the state of Texas use when teaching at-risk students who do not qualify for special education services. After sending out 102,746 invitations to participate in the questionnaire, I received only 191 responses, which was a low response rate. Stern, Bilgen, and Dillman (2014) stated that a low response rate might be found in e-mail surveys. Stern et al. suggested that raising the response rate would require multiple approaches to accommodate interests of different populations. In future studies, I would try a different method of recruitment such as using the education centers in the state. I would also consider using different visual aids or an accessible phone questionnaire to make the questionnaire more convenient to complete. Choosing a different time frame may also increase the response rate as teachers would not be distracted by holiday and end-of-semester activity. Finally, offering an incentive for answering the questionnaire may increase the response rate.

Another limitation was the response rate (<1%) of survey attrition from teachers who felt that the survey did not apply to them because they were not reading teachers and therefore did not respond. I received some e-mail responses that communicated this as the

reasoning for not completing the survey. I assume that many more did not take the time to respond for the same reason. The first page of the questionnaire was the invitation and consent. In future studies I might better articulate that the questionnaire was open to all teachers, including those who do not teach reading. I had thought this was adequately explained in the current study, but I may have needed to reword it for clarity.

The final limitation was the self-response data collected in the questionnaires and interviews. Self-reported data cannot be independently verified and are considered a threat to validity as the required responses are to be taken at face value while understanding that biases such as selective memory, attribution, exaggeration, or positive emphasis can exist (see Frey, 2018). The possibility of respondent bias crossed my mind as I looked at questionnaire data in which everything was reported as being done all of the time or the person felt very well prepared when he or she did not report teaching nonfiction reading for any extended length of time. One participant spoke at length about all that she was able to accomplish during her time in education but gave little detail when it came down to what she did in the classroom. Those cases were noted in my memos as I reviewed the data.

Recommendations

Beyond the recommendations to remediate the limitations of a low response rate to an online questionnaire, including better timing and clarity of description, I could also see this study expanding in many ways. Researchers could target upper elementary teachers who were not reading teachers to get a better understanding of how other content areas approach nonfiction reading comprehension instruction. Teachers could receive

more open-ended questions so they have the opportunity to describe specific training needs they may have to teach nonfiction reading comprehension and meet the learning needs of at-risk students. Another approach would be to track scores as a means of determining which instruction was impacted with upward momentum after different reading professional development sessions. For example, researchers could examine whether teachers saw a difference before and after taking part in the 15-month Reading Academy professional development sessions put on by the state of Texas.

Another approach would be using the same study design but having students describe how their reading capabilities were developed, which instruction helped them the most, and whether they view collaboration as an important method to improve their reading capabilities. Students could also provide suggestions on how to help hypothetical teachers better reach students who are at-risk, or ways students could help fellow students who are struggling with nonfiction reading comprehension in the classroom. Students' perspectives would add an important dimension to the discussion because they would be part of the process of improving reading instruction.

Regarding differentiation, researchers could branch from the current study in several ways. Researchers could track at-risk students' scores to determine which differentiation technique brought the most return, or could interview students to determine what they feel helped them the most in the classroom. Researchers could also include primary sources like lesson plans or videos of teachers in the process of differentiating to get a more in-depth picture of what is happening in the classroom.

Implications

Positive Social Change

The findings from this study revealed the instruction taking place in upper elementary classrooms in the state of Texas. The results may be used by educators to improve students' skills in comprehension, thereby increasing students' opportunities for success. Findings from analysis of the questionnaire and interview data suggested that finding ways to address the paradigm conflict, providing additional on-the-job training that addresses nonfiction instruction, and differentiating instruction rather than rescuing at-risk students might help them reach grade-level learning benchmarks and no longer be at-risk, which could decrease the dropout rate.

This study may also contribute positive change in the field of education as it examined how the background was built for nonfiction reading instruction taking place in upper elementary classrooms. Findings in Chapter 4 suggested that the teaching of at-risk students within the upper elementary classroom can be refined to include more on-the-job training in nonfiction and differentiation versus rescuing for the teachers. With this training, the instruction may improve for all at-risk learners allowing for students to reach grade-level learning benchmarks and find success at their grade-level. There is evidence of transferability for other states, districts, or teachers struggling with upper elementary students' nonfiction reading comprehension with this study due to a conflicting paradigm or an identified at-risk population struggling with nonfiction reading, as Texas is not alone with those concerns thus leading to stronger nonfiction instruction and meeting of needs nationwide.

Recommendations for Practice

This study has implications for teachers, districts, and educators in the state of Texas. The results of this study could aide scholars, teachers, and curriculum planners in the state of Texas make informed decisions on what more is needed or adjusted in teacher pedagogy building of nonfiction instruction and at-risk learning to better aid expository comprehension needs of upper elementary at-risk students. Teachers in this study showed that they used explicit instruction techniques to have taught nonfiction reading comprehension to their students, including those that were at-risk, while at the same time struggling with the paradigm conflict between reading to learn and learning to read. Curriculum planners could use those findings to bring about a better balance and approach to mandated learning for all teachers for the betterment of all learners, not just at-risk students. Teachers reported reading professional development helped to build an effective pedagogy for instruction, but little of it was in nonfiction, indicating an area of need that can be addressed by district, schools, and the state. Teachers in this study knew that differentiation was essential but seemed to struggle with how to put it in place without rescuing at-risk students indicating another area that can be addressed by schools, districts, and the state with further professional development or collaboration efforts to help teachers. If district, schools, and the state were to make the changes that match the findings in the study, there would be a stronger foundation of nonfiction instruction and meeting the needs of at-risk students in upper elementary schools thereby possibly increasing the meeting of grade-level learning benchmarks.

Conclusion

A concern in upper elementary Texas schools is based on the continuum longitudinally from 2013-2018 of low performance in reading comprehension scores nationally at the fourth grade and locally. Those scores indicate that at least 30% of students in upper elementary grades in Texas struggle to possess the minimum skills comprehension required to be successful at grade-level learning indicating issues with instruction in the classroom (National Center for Education Statistics, 2016, 2015b; Texas Education Agency, 2013, 2014, 2015b, 2016, 2017a, 2018a). As a result, I wanted to explore the pedagogical content knowledge of upper elementary teachers who teach nonfiction comprehension strategies to their at-risk students. Further, I wanted to investigate how teachers used their pedagogical content knowledge to differentiate a lesson to have met the needs of at-risk, late-emerging reading difficulty students. Findings suggest that a difficulty present in upper elementary classrooms when it comes to teaching nonfiction reading comprehension is a conflict of paradigms between reading to learn and learning to read.

Additionally, although professional development in reading has been participated in, little is reported to be in the teaching of nonfiction material, which can impact the quality of nonfiction instruction. Finally, teachers are differentiating to help at-risk, late-emerging difficulty students find success but they are seemingly doing so in a rescuing action thereby never having the students grow and learn independence to have met the benchmarks on their own. Through recommended adjustments or areas of improvement, this study has the potential to bring about positive social change not only for the at-risk,

late-emerging reading difficulty students sitting in an upper elementary classroom in the state of Texas but also for the nation.

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Appendix A: Permission to Use and Modify

Trygstad's (2013) 2012 National Survey of Science and Mathematics Education

From: Silke Piper [mailto:silke.piper@waldenu.edu]
Sent: Monday, June 19, 2017 1:54 PM
To: Susan Hudson
Subject: Permission Request To Use 2012 Survey Format

June 19, 2017

Permissions Editor
Horizon Research, Inc.
326 Cloister Court
Chapel Hill, NC. 27514-2296

Dear Horizon Research, Inc. Permission Editor,

I am a doctoral student from Walden University writing my dissertation tentatively titled Examining Information Text Instructional Strategies of Texas Upper Elementary At-Risk Learners under the direction of my dissertation committee chaired by Dr. White.

I would like your permission to reproduce and use the format of the teacher 2012 National Survey of Science and Mathematics Education: Mathematics Questionnaire in Phase 1 of my research study. I would like to use your survey under the following conditions:

- I will use this survey only for my research study and will not sell or use it with any compensate or curriculum development activities.
- I will include a copyright statement on all copies of the instrument.
- I will send my research study and one copy of reports, articles, and the like that make use of this survey promptly to your attention.
- I will keep the same layout and format of the questions but change the emphasis and wording from Mathematics to Reading.

My plan is to send out the adjusted survey to all third through fifth-grade teachers in the state of Texas.

I would appreciate your consideration if those are acceptable terms and requests.

Sincerely,

Silke Piper
Doctoral candidate

From: Susan Hudson <hudson@horizon-research.com>
Sent: Friday, June 23, 2017 9:01 AM
To: Silke Piper
Subject: RE: Permission Request To Use 2012 Survey Format

Silke,

Permission is granted, based on the conditions you listed.
Best of luck with your study.

Susan B. Hudson
Senior Administrative Assistant
Horizon Research, Inc.
326 Cloister Court
Chapel Hill, NC 27514-2296
www.horizon-research.com

Appendix B: 2018 Texas Survey of Upper Elementary Nonfiction Reading Instruction

You are invited to take part in a research study about upper elementary nonfiction reading instruction. The researcher is inviting all 3rd, 4th, and 5th grade Texas teachers to be in the study. As a participating teacher, you will be supporting the gathering of knowledge around current instruction and needs. I obtained your name/contact information via Texas Education Agency's Public Information Department. The following information is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Silke Piper, who is a doctoral student at Walden University. You might already know the researcher as a teacher, but this study is separate from that role.

Background Information:
The purpose of this study is to explore the background and instructional techniques of Texas upper elementary teachers when teaching nonfiction reading comprehension strategies.

Procedures:
If you agree to be in this study, you will be asked to:
Take a one-time anonymous questionnaire that will take no more than 30 minutes of your time.

Here are some sample questions:
Are you a 3rd, 4th, or 5th grade teacher?
Have you taken any college courses or professional development on teaching reading?
How do you teach a specific strategy?

Voluntary Nature of the Study:
This study is voluntary. You are free to accept or turn down the invitation. No one at your school, district, or Texas Education Agency will treat you differently if you decide not to be in the study. If you decide to be in the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue or uncomfortableness. There are no right or wrong answers. Being in this study would not pose risk to your safety or wellbeing.

The potential benefits of this study are to create positive social change in that educators may apply the results to their efforts to develop and improve student skills in comprehension thereby increasing student opportunities for success and productivity in academics and society in the long term.

Payment:
There is no payment for participating in this instruction.

Privacy:
Reports coming out of this study will not share the identities of individual participants. Details that might identify participants, such as the location of the study, also will not be shared. Even the researcher will not know who you are unless you wish to share that information. The researcher will not use your personal information for any purpose outside of this research project. Data will be kept secure by the numbering of the submission. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via Silke.Piper@waldenu.edu. If you want to talk privately about your rights as a participant, you can call the Research Participant Advocate at my university at 612-312-1210. Walden University's approval number for this study is **IRB will enter approval number here** and it expires on **IRB will enter expiration date.**

Please print or save this consent form for your records.

Obtaining Your Consent
If you feel you are will to participate, please indicate your consent by clicking the link below.

I agree to participate
I do not agree to participate

Section A. Teacher Background

1. Do you currently teach 3rd, 4th, or 5th grade?
   ① yes
   ② no

If no, terminate questionnaire to end slide

2. How many years have you taught prior to this school year:
   ① 0-5 years
   ② 6-10 years
   ③ 11-15 years
   ④ 16-20 years
   ⑤ More than 20 years

3. Of those years, how many combined years have you taught in 3rd, 4th, or 5th grade?
   ① 0-5 years
   ② 6-10 years
   ③ 11-15 years
   ④ 16-20 years
   ⑤ More than 20 years

4. At what grade level do you currently teach?
   ① 3rd Grade
   ② 4th Grade
   ③ 5th Grade
   ③ I teach a combination of 3rd grade, 4thgrade, and/or 5th grade

5. Do you currently teach in a self-contained or departmentalized format?
   ① Self-contained
   ② Departmentalized

If self-contained, skip to number 7. *If departmentalized*- continue onto number 6.

6. What subjects do you currently teach? (mark all that apply)
   ① English Language Arts/Reading
   ② Math
   ③ Science
   ④ Social Studies

7. What is your highest degree you have been awarded?
   ① Bachelors
   ② Masters
   ③ Specialist
   ④ Doctorate

8. How did you earn your teaching certificate?
   ① An undergraduate program leading to a bachelor's degree and a teaching credential
   ② A post-baccalaureate credit entailing program (no master's degree awarded)
   ③ A master's program that also awarded a teaching credential
   ④ Alternative certification

9. What are you certified to have taught? (Mark all applicable)
   ① K or 1-4 Generalist (Elementary Education)
   ② 5-8 Generalist
   ③ K-8 Generalist (Elementary Education)
   ④ Reading
   ⑤ Math
   ⑥ Science
   ⑦ Social Studies
   ⑧ Other

10. When did you last take a formal course for college credit in each of the following areas? Do not count professional development courses [Select one on each row].

	In the last 3 years	4-6 years ago	7-10 years ago	More than 10 years ago	Never
Reading					
How to have taught nonfiction reading comprehension strategies					
Teaching at-risk students					

Section B: Generalized Nonfiction Reading Strategy Instruction

In this section, the focus will be on nonfiction reading strategy instruction. Nonfiction reading strategy instruction are routines, procedures, and active steps that readers use to engage with and help them to make sense of what they are reading. You may not teach reading in isolation, but you might teach nonfiction reading strategies in the subject(s) you teach.

11. Which best describes the nonfiction reading strategy instruction provided to the entire class? (Do not consider pull-out instruction or instruction for special education, remediation/intervention, or enrichment.)
    ① This class receives nonfiction reading strategy instruction only from you.
    ② This class receives nonfiction reading strategy instruction from you and another teacher (for example: a reading specialist or a teacher you teach with)
    ③ This class receives nonfiction reading strategy instruction from another teacher.

12. Which best describes your nonfiction reading strategy instruction that you utilize for your subject?
    ① I teach nonfiction reading strategy instruction all or most days, every week of the year.
    ② I teach nonfiction reading strategy instruction every week, but typically three or fewer days each week.
    ③ I teach nonfiction reading strategy instruction some weeks, but typically not every week.
    ④ Never

If Never, skip to question 15.

13. In a typical week, how many minutes per week is spent teaching nonfiction reading strategy instruction?
    ① 0-15 minutes
    ② 16-30 minutes
    ③ 31-45 minutes
    ④ 45-60 minutes
    ⑤ More than 60 minutes

14. In a typical year, how many weeks do you teach nonfiction reading strategy instruction?
    ① 1-5 weeks
    ② 6-10 weeks
    ③ 11-15 weeks
    ④ 16-20 weeks
    ⑤ More than 20 weeks

15. What is number of students enrolled in your class this current year?
    ① 1-5 students
    ② 6-10 students
    ③ 11-15 students
    ④ 16-20 students
    ⑤ 21- 25 students
    ⑥ 26-30 students
    ⑥ I am departmentalized or I teach more than 30 students

16. Within your class roster, how many students are labeled as at-risk by the state? *At-risk students have previously struggled academically within the core subjects or failed the state assessment.*
    ① 1-5 students
    ② 6-10 students
    ③ 11-15 students
    ④ I am departmentalized or I have more than 15 students
    ⑤ I have no at-risk students

Please give your opinion to the following statements.

17. Reading for my grade level is a struggle for my students because of the reading for learning that takes place with harder nonfiction material.
    ① Strongly Disagree
    ② Disagree
    ③ Not sure
    ④ Agree
    ⑤ Strongly Agree

18. For nonfiction comprehension of complex texts, students must be able to use the following skills effectively and successfully [choose one per row]

	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
Activating prior knowledge and building background					
Infer					
Generating and answering questions					
Visualizing text					
Text structure and organization					
Monitor understanding/comprehension and finding a solution					
Summarize and main idea					

Section C: Professional Development and Perceived Level of Preparedness

In the following section, please consider your professional development and background in being prepared to have taught nonfiction reading comprehension strategies. Even if you are departmentalized, please consider how much of the professional development you have participated in or attended has encompassed reading or nonfiction reading as part of the training.

19. Have you taken an opportunity to participate in any professional development on: [Select one on each section.]
    a. Reading
    ① Yes
    ② No

(If No, Skip questions 20-24)

    b. At-risk Student Learning
    ① Yes
    ① No

(If No, Skip questions 25-28)

20. When did you participate most recently in professional development (sometimes called in-service education) that was focused on **reading or reading teaching**? (Do not include formal courses for which you received college credit.)
    ① In the current school year
    ② Last school year
    ③ Between 3 to 5 years ago
    ④ Between 6-8 years ago
    ⑤ More than 8 years ago

21. What was the type of professional development you attended most recently for reading?
    ① A school or district specifically assigned workshop
    ② A workshop offered by the school or district that you could choose to attend
    ③ A national, state, or regional teacher's associative or conference meeting
    ④ A professional learning community/lesson study/teacher study group

22. To the best of your recollection, how much of the professional development you attended on reading discussed or covered specifically nonfiction reading strategy instruction?
    ① Less than 10%
    ② Between 11-25%
    ③ Closer to 50%
    ④ Between 50% to 75%
    ⑤ All of it
    ⑥ None of it

23. What is the total amount of time you have spent on professional development in ***reading or reading teaching*** in the last 3 years? (Do not include formal courses for which you received college credit.)
    ① Less than 1 hour
    ② 1-2 hours
    ③ 3-5 hours
    ④ 6-10 hours
    ⑤ 10-15 hours
    ⑥ More than 15 hours

24. Thinking about all of your reading-related professional development in the last 3 years, to what extent does each of the following describe your experiences? [Select one for each row.]

	Not at all	Somewhat	To a great extent
You had opportunities to see modeling			
You had opportunities to examine classroom artifacts (i.e.: student work)			
You had opportunities to try out what you were learning in your classroom and then reflect and talk with other participants about it as part of a follow up			
You worked closely with other teachers from your school			
You worked closely with other teachers from other campuses			

The professional development was a waste of your time			

25. When did you last participate in professional development (sometimes called in-service education) focused on ***at-risk students or at-risk learning***? (Do not include formal courses for which you received college credit.)
    ① In the current school year
    ② Last school year
    ③ Between 3 to 5 years ago
    ④ Between 6-8 years ago
    ⑤ More than 8 years ago

26. What was the type of professional development you attended most recently for at-risk students or at-risk learning?
    ① A school or district specifically assigned workshop
    ② A workshop offered by the district or school you could choose to attend
    ③ A national, state, or regional teacher's associative or conference meeting
    ④ A professional learning community/lesson study/teacher study group

27. What is the total amount of time you have spent on professional development in ***at-risk students or at-risk learning*** in the last 3 years? (Do not include formal courses for which you received college credit.)
    ① Less than 1 hour
    ② 1-2 hours
    ③ 3-5 hours
    ④ 6-10 hours
    ⑤ 10-15 hours
    ⑥ More than 15 hours

28. Thinking about your at-risk students-related professional development in the last 3 years, to what extent does each of the following describe your experiences? [Select one for each row.]

	Not at all	Somewhat	To a great extent
You had opportunities to see modeling			
You had opportunities to examine classroom artifacts (i.e.: student work)			
You had opportunities to try out what you were learning in your classroom and then reflect and talk about with other participants as part of a follow up			
You worked closely with other teachers from your school			
You worked closely with other teachers from other campuses			
The professional development was a waste of your time.			

29. Considering all the opportunities taken for professional development and college coursework in the last 3 years, how much was each of the following emphasized? [Select one on each row.]

	Not at all	Somewhat	To a great extent
Deepening your own reading content knowledge			
Learning how to have taught nonfiction reading comprehension strategies for your subject			
Learning about difficulties that students may have with nonfiction reading comprehension for your subject			
Finding out what students think or already know about key nonfiction reading strategies prior to instruction on those ideas			
Implementing a nonfiction reading strategy instruction program to be used in your classroom			
The planning of instruction so at-risk students can increase their understanding and comprehension of nonfiction reading			

Monitor student understanding during reading instruction			
Assessing student understanding and comprehension after the instruction			

30. Many teachers feel better prepared to have taught some subjects/topics than others. How well prepared do you feel to have taught each of the following at the grade level(s) you are currently assigned, if they are presently included in your teaching responsibilities or in the curriculum? [Select one on each row.]

	Not adequately prepared	Somewhat prepared	Fairly well prepared	Very well prepared
Activating prior knowledge or building background				
Inferring				
Generating and answering questions				
Visualizing text				
Text structure and organization				
Monitor understanding/comprehension and finding a fix				
Summaries and main idea				

31. How well prepared do you feel to do each of the following in your reading instruction? [Select one on each row.]

	Not adequately prepared	Somewhat prepared	Fairly well prepared	Very well prepared
Plan instruction so students at different levels of achievement can increase their understanding of the ideas targeted in each activity				

Teaching nonfiction reading comprehension strategies to students				
Teaching nonfiction reading comprehension strategies to students who are late-emerging struggling readers or labeled at-risk				
Differentiating nonfiction reading comprehension instruction to have met the needs of students who are late-emerging, struggling readers or labeled at-risk				

Section D: You, The Instructional Leader

32. Please provide your opinion about each of the following statements. [Select one on each row.]

	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
Students are still learning to read in upper elementary.					
If I have not been trained, or it is not in my curriculum; my focus as an instructor when teaching should not include reading strategies.					
To be effective, teachers must know what they are teaching, how					

to have taught in general, and their students' strengths and weaknesses.					
Late-emerging struggling readers who can read fluently but cannot comprehend just need more time in the subject to find success.					
A student with an at-risk label indicates that the teacher will need to approach teaching differently.					
Differentiation is only effective if it is planned ahead of time for inclusion within a lesson.					

33. How much control do you have over each of the following aspects of reading instruction in your class? [Select one on each row.]

	No Control	Moderate Control	Great Control
Selecting content, topics, and skills to be taught outside of course goals and objectives			
Select teaching techniques			

Choosing criteria for grading student performance			

34. How often do you do each of the following in your classroom instruction? [Select one on each row.]

	Never	Rarely (A few times a year)	Sometimes (once or twice a month)	Often (once or twice a week)	All the time in all lessons
Check for comprehension of nonfiction materials during lessons					
Plan comprehension lessons for your subject around the needs of your at-risk students					
Differentiate your lessons to have met nonfiction reading comprehension needs					

35. How often do you teach with modeling, think a-louds, and/or opportunities with authentic practice the following: [Select one on each row].

	Never	Rarely (A few times a year)	Sometimes (Once or twice a month)	Often (Once or twice a week)	All the time in all lessons

Activate prior knowledge and building background					
Inferring					
Generate and answer questions					
Visualize text					
Text structure and organization					
Monitor understanding/comprehension and find a fix					
Summaries and main idea					

36. Please rate the following for the effect each one has on your nonfiction reading instruction in your class. [Select one on each row]

	Inhibits Effective Instruction	Mixed	Promotes Effective Instruction	Not Sure
Current state standards for your subject(s)				
District curriculum frameworks				
District or state pacing guides				
State testing/accountability policies				
District testing/accountability policies				
Teacher evaluation policies				
Student's general reading abilities upon entering the grade				
Time for you to plan individually and/or with colleagues				

Time available for professional development				
The label given to a student				

37. You agree, if needed, for a follow up to this questionnaire.
① Yes
② No

If yes: Email contact _____

38. You are willing to participate in an interview about reading, differentiation, and at-risk students.
① Yes
② No

If yes: Email contact _____
Thank you!

Modified from:
Trygstad, P.J. (2013). *2012 National survey of science and mathematics education: Status of elementary School Mathematics.* Chapel Hill, NC: Horizon Research, Inc. Retrieved from http://www.horizon-research.com/2012-national-survey-of-science-and-mathematics-education-status-of-elementary-school-science

Appendix C: Interview Guide for Open-Ended, Scenario Based Interview

Upper Elementary Teacher Use of Pedagogical Content Knowledge With Nonfiction Reading Instruction

Research Question:

How do upper elementary teachers in Texas describe their differentiation using pedagogical content knowledge for nonfiction reading comprehension strategies instruction with students who are at-risk, LERD?

Phenomenon of Interest

The phenomenon of interest is focused on how Texas teachers in upper elementary differentiate a reading lesson to have met the needs of the identified At-Risk student population.

Recurring patterns.

The literature supports the findings that teachers must differentiate their instruction to have met the diverse needs within the classroom (Shulman, 1987; Puzio, Newcomer, & Goff, 2015; Tomlinson, 2013; Tomlinson & Allan, 2000). Teachers use a combination of pedagogical content knowledge and knowledge about the student to make adjustment to their instruction to have met needs (Shulman, 1986; Griffith et al., 2016; Long, 2014; National Board for Professional Teaching Standards, 2016). At-risk students, or students with late-emerging reading difficulties, have difficulties that are not limited to just one issue (McMaster, Espin, & van den Broek, 2014; RAND Reading Study Group, 2002; Richey et al., 2017; Wanzek et al., 2013). Those students may exhibit higher-level deficiencies in the cognitive demands of nonfiction as they struggle with text structure,

having enough background knowledge to make connections to prior knowledge, working memory, or making integrative and inferential connections linked to the construction of meaning of the text and thereby have difficulties in using strategies to monitor comprehension or cultivating text-based thinking (Etmanskie, Partanen, & Siegel, 2016; Van den Broek, Helder, & van Leijenhorst, 2013, Vaughn et al., 2013).

Potential topics.

Differentiation of Instruction, identification by participant of knowledge needed to be able to differentiate a lesson, specific difficulties exhibited by At-risk, or late-emerging reading difficulties

Key Phrases.

Differentiate, meeting needs, struggle with text knowledge, struggle with working memory, struggle with monitoring comprehension, struggle with constructing meaning of text.

Theoretical/Conceptual Framework

The theoretical/conceptual framework for the study is Shulman's (1986) pedagogical content knowledge (PCK) model and Tomlinson's (2001) Differentiation Instruction (DI) model.

Concepts.

Shulman (1986) posited that for teachers to be effective at their craft than teachers needed to have knowledge about subject matter content knowledge (of critical facts, concepts, and principles), pedagogical knowledge (practical application of teaching), pedagogical content knowledge (specialized knowledge that teachers use to help students

learn content through transformation), curricular knowledge, and knowledge about their students. Tomlinson's (2001) description of differentiation is when a teacher acts responsively to a learner's needs to maximize student growth and academic success by using the combined PCK knowledges and datum to adapt their instruction or curriculum for individuals or groups within the classroom setting (Puzio, Newcomer, & Goff, 2015; Schulman, 1986; Tomlinson, 2013; Tomlinson & Allan, 2000). According to Tomlinson (2001), teachers can differentiate content of the lesson, assessments of student learning, the process of the teaching, and products of the lesson according to students' readiness, interests, and learning styles (Firmender, Reis, & Sweeny, 2013; Long, 2014; McCarthy, 2014; Tomlinson 2013, 2014; Tomlinson & Allan, 2000). Research indicates that differentiating instruction is effective for teaching reading to all students, to include those who are at-risk and struggle (Long, 2014; Tomlinson, 2013, 2014). It is the knowledge of the student in conjunction with the teacher's content knowledge and pedagogical knowledge that will serve as the foundation for the changes when instructing students in the classroom (Tomlinson, 2014).

Keywords. Differentiation, meeting learner needs, knowledges needed

Methodology

This case study research will provide a comprehensive, holistic, in-depth view of how pedagogical content knowledge guides current expository reading comprehension teaching approaches used with upper elementary at-risk students (Baskarada, 2013; Edmonds, Vaughn, Wexler, Reuterbuch, Cable, Tackett, & Schnakenberg, 2009; Kendeou, McMaster, & Christ, 2016).

Key points in interview guide. Exploring a narrow focus, researcher remains passive, focused on teachers who differentiate lessons, multiple sources of evidence (questionnaire, interview, public documents) focusing on why and how.

Introduction to Interview

Thank you for agreeing to being interviewed as part of this case study. I want to begin by saying that there is no "correct" answer to the 5 questions I am asking you. The study is seeking your perspective as a way to understanding better how teachers differentiate their instruction to have met the needs of their At-risk students who have late-emerging reading difficulties but are not classified as special education. This interview will take approximately forty-five minutes to take. This interview will be completely anonymous and confidential. Let us begin.

Introduction Questions	Let's begin by discussing some basic demographic information. From your questionnaire, I see you choose the bracket for _____ years as having taught. How many actual years have you taught? Have they all been at the same school? *If not:* How many schools have you taught at? What grades have you taught during your years of service? How has having taught for _____ years, changed your instruction in the classroom?	

Transition Questions	Thank you. I would like to now move onto talking about how you learned to have taught reading. In your questionnaire, you stated that your specialization was _____. How well do you think that specialization helped you to have taught non-fiction reading? Can you give me some examples of how it helped (or hurt) your ability to have taught non-fiction reading? Based on your experiences, what do you think has helped you the most in preparing and teaching non-fiction reading strategies? Let's now talk about your students that are identified At-risk due to late-emerging reading difficulties but are not classified as special education. Please think of the At-risk population you have taught over the years. Based on your experience of teaching At-risk students, please give me three words, or descriptions, that characterize the struggles you see At-risk students having with non-fiction reading? Would you care to elaborate on why you chose those words?	

	Please think of how you felt teaching non-fiction reading to those At-risk students. Based on your experiences, please give me three words, or descriptions, that characterize your ability in your teaching of non-fiction reading to those students? Would you care to elaborate on why you chose those words?	
Key Questions	I now would like to focus on your actual planning of instruction for the At-risk students with late-emerging reading difficulties who are not classified as special education. I will be giving you a scenario that I wish you to reflect on as you answer about specific hypothetical students. I am more than willing to re-read the scenario as many times as you want. I want you to describe how you would meet the needs of the hypothetical student given the defining characteristics. The Scenario: ***You are preparing a lesson for the class that will involve using information from a non-fiction selection in which to make a graph or chart with the supplied data. You think of your students that***	

	are considered at-risk but not under special education as you prepare your lesson. Please respond to the following student vignettes in your classroom. **Johnny:** Johnny has good reading fluency but routinely after reading a non-fiction selection of any length will state that he does not get what the story was about. This shows that he is struggling with making sense of what he reads. How do you prepare your lesson to have met Johnny's needs? Why did you choose that plan of action? What do you feel will be the outcome of this plan?	

	Sally: Sally an avid reader of fiction but struggles with identifying what is the most important data to focus in on from a story which shows in her retelling. This shows a struggle with working memory and text structure. How do you prepare your lesson to have met Sally's needs? Why did you choose that plan of action? What do you feel will be the outcome of this plan? **Tommy:** Tommy takes a long time to read the material and has a hard time with following along with everything that is going on in a text. This shows a struggle with metacognition strategies in monitoring his comprehension. How do you prepare your lesson to have met Tommy's needs? Why did you choose that plan of action? What do you feel will be the outcome of this plan?	

Closing Questions	Thank you for your contribution. I appreciate the time you took to interview with me. Do you have anything you would like to add from your perspective? I would like to follow up with you to review the transcript of our session. How can I best reach you?	

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *The Qualitative Report, 21*(5), 811-831.

Closing the Interview

Thank you for your contribution. I appreciate the time you took to interview with me. Do you have anything you would like to add from your perspective? I would like to follow up with you to review the transcript of our session. How can I best reach you?

Appendix D: Reorganization of Questions by Research Sub-Question

Reorganization of Questionnaire by Sub-Research Questions

Research Question Sub-question	Questionnaire Question	Number of Answer Choices
1	13, 41	3 each
	9, 10, 14, 38 (7 rows), 39 (4 rows), 44 (10 rows)	4 each
	15, 16, 19, 20 (7 rows), 40, 42, 43	5 each
	11	8 each
2	21, 27, 32	2 each
	26 (6 rows), 31 (6 rows), 36 (6 rows), 37 (8 rows)	3 each
	23, 29, 34	4 each
	12 (3 rows), 22, 28, 33	5 each
	24, 25, 30, 35	6 each
3	7	2 each
	8	4 each
	18	5 each
	17	7 each

Reorganization of Interview Questions by Sub-Research Questions

Research Question Sub-question	Interview Question
1	Based on your experiences teaching at-risk students, please give me three words, or descriptions, that characterize the struggles you see At-risk students having with nonfiction reading? (minimum 2 follow up questions) Based on your experiences, please give me three words, or descriptions, that characterize your ability in your teaching of nonfiction reading to those students. (minimum 2 follow up questions)
2	How has having taught for ___ years, changed your instruction? How well did your specialization help you to have taught nonfiction reading? Based on your experiences, what do you think has helped you the most in preparing and teaching nonfiction reading strategies?
3	How do you prepare your lessons to have met Johnny's needs? (2 follow up questions) How do you prepare your lessons to have met Sally's needs? (2 follow up questions)

	How do you prepare your lessons to have met Tommy's needs? (2 follow up questions)

Appendix E: Second Cycle and Third Cycle Coding

Research Sub-Question	1st Code Cycle	2nd Code Cycle	3rd Code Cycle
1	147	• lack of confidence • Lack of drive/motivation • Feelings of frustration • Feelings of hopelessness • Not feeling successful	student's affective
		• attitude displayed • avoidance behavior driven • lack of understanding/instruction	student behavior
		• background • generating/answering questions • visualizing • text structure/organization • monitor comprehension • summarizing	teacher perceived student struggles
		• level of materials/content • time • teacher beliefs • teacher approach	teacher perceived factors
		• positive approach • negative approach • driven by success or failure as a teacher • driven by previous experience	teacher's affective
		• instruction • presentation • mindset/focus	teacher's actions
		• student-needs • teacher insecurities • empathy • end goal driven • resources and materials • time	teachers' perceive struggle

		• perceived level of student needs • teacher mindset • environment/culture • materials to have taught with • benchmarks set by others	teacher's perceived factor
2	253	• traditional through bachelor teacher program • through alternative certification • through higher education • through pd/ colleagues • through use of students/on the job • life experiences • own attitude	credited as helped build pedagogy formation
		• traditional through bachelor teacher program • through alternative certification • through higher education • through pd/ colleagues • through use of students/on the job • life experiences, own attitude	not helping teacher build pedagogy
		• non-specified sources	neither helping or hurting building of teacher pedagogy
		• overwhelmed • self-taught with an intoned sense of pride • loss of control • lack of confidence • feels positive	teachers feelings and emotions over experience
		• teacher-directed • student centered • in instruction • in end-product	specified change in teaching
		• knowledge of students • on the job • change in thinking/ perspective/ attitude • collegiate influence	how change was brought about
		• teaching style • student needs • best practice	driving force of change

		• teaching experience • support structure present or missing	
		• time • foundation in teaching • accountability measures • teaching style • teaching experience	perceived impacts to cause change
3	219	• done by teacher • done by student • activating prior knowledge • inferencing • generating/answering questions • visualization • text structure/organization • summary	teacher directed actions
		• gradual release • learned helplessness- doing it for student • differentiating • scaffolding • activating prior knowledge • inferencing • generating/answering questions • visualization • text structure/organization • summary	teacher support
		• knowing/focusing on student, • knowing/focusing on pedagogy • knowing/focusing on content • knowing/focusing on past experience	teacher thinking

Appendix F: Complete Questionnaire Findings

Demographic Data

Years of Experience	0-5 years	6-10 years	11-15 years	16-20 years	More than 20 years
	11%	19%	21%	19%	30%

Highest Degree Awarded	Bachelors	Masters	Specialist	Doctorate
	55%	41%	0.6%	3%

Earned Teaching Certificate	Bachelor's degree with teaching credential	Post-baccalaureate certification program (no degree awarded)	Master's degree with teaching credential	Alternative certified
	70%	1%	5%	24%

Certification Coverage	K or 1-4 Generalist	4 or 5-8 Generalist	K-8 Generalist
	39%	20%	41%

Last formal course:	In last 3-years	4-6 years ago	7-10 years ago	More than 10 years ago	Never
in Reading	16%	9%	25%	43%	7%
in Nonfiction Reading Comprehension Strategies	15%	8%	22%	37%	18%
in At-risk students	24%	8%	22%	33%	12%

Subjects Currently Taught	ELA/Reading	Math	Science	Social Studies
	75%	21%	28%	44%

Note. N=161.

Reporting of Generalized Nonfiction Reading Strategy Instruction (NRSI)

Provision of NRSI to whole class	Only from teacher	Teacher and someone else	Only from someone else		
	54%	29%	17%		
How often NRSI taught	All or most days	Every week, but three or fewer days	Some weeks	Never teach it	
	21%	32%	36%	11%	
How many minutes taught	0-15 minutes	16-30 minutes	31-45 minutes	45-60 minutes	More than 60 minutes
	10%	21%	16%	23%	30%
How many weeks taught	1-5 Weeks	6-10 Weeks	11-15 Weeks	16-20 Weeks	More than 20 weeks
	9%	11%	19%	25%	37%
At-risk on roster	1-5 students	6-10 students	11-15 students	Departmentalized: more than 15	None
	11%	18%	16%	53%	2%

Note. N=161.

Belief of Reading for Learning (RFL) and Skills Necessary for Success

Reading at grade level is struggle because of RFL and harder material.	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
	3%	14%	9%	56%	18%

Skills Necessary for Success:	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
Activating prior knowledge or building background	8%	2%	0%	36%	53%
Inferencing	8%	2%	0%	28%	61%
Generating and answering questions	8%	1%	4%	36%	51%
Visualizing text	8%	3%	2%	38%	49%
Text structure and organization	9%	1%	0%	40%	50%
Monitor understanding and comprehension	7%	3%	0%	29%	60%
Summarize	7%	2%	2%	25%	64%

Note. RFL *N*=161., Skills Necessary for Success *n*=141.

Opportunity and Characteristics of Reading Professional Development (RPD)

Opportunity to take course or RPD	Yes	No
	88%	12%

Last participated in Rpd	Current school year	Last school year	Between 3-5 years ago	Between 6-10 years ago	More than 10 years ago
	74%	16%	7%	1%	1%

Type of Rpd	School or district assigned	Choice offered by school or district	Reading teachers association	Professional learning Committee
	43%	37%	12%	8%

Table continued on next page

Amount of RPD focused on nonfiction	Less than 10%	11-25%	Closer to 50%	Between 50-75%	All of it	None of it
	16%	33%	24%	16%	9%	1%

Time spent on RPD over last 3 years	Less than 1 hour	1-2 hours	3-5 hours	6-10 hours	10-15 hours	More than 15 hours
	3%	4%	11%	17%	17%	48%

Extent of opportunities to:	Not at all	Somewhat	To a great extent
see modeling	11%	54%	34%
examine classroom artifacts	32%	41%	27%
for follow-up after use in classroom	30%	36%	34%
school collaboration	13%	43%	44%
district collaboration	34%	48%	18%
waste of time	68%	25%	7%

Note. Opportunity of RPD *N*=161., Characteristics of RPD *n*=141 .

Opportunity and Characteristics of At-risk Learning Professional Development (ALPD)

Opportunity to participate in ALPD	Yes	No
	73%	27%

Last participated in ALPD	In the current school year	Last school year	Between 3-5 years	Between 6-8 years ago	More than 8 years
	52%	29%	15%	4%	0%

Type of ALPD	School or district assigned	Choice offered by school or district	Reading teachers association	Professional learning Committee
	53%	35%	7%	5%

Extent of opportunities to:	Not at all	Somewhat	To a great extent
see modeling	21%	48%	30%
examine classroom artifacts	32%	41%	27%
for follow-up after use in classroom	27%	45%	28%
school collaboration	13%	46%	41%
district collaboration	38%	46%	16%
waste of time	66%	29%	5%

Note. Opportunity of ALPD *N*=161., Characteristics of ALPD *n*=117.

Opportunity and Characteristics of At-risk Reading Professional Development (ARPD)

Opportunity to participate in ARPD	Yes	No
	57%	43%

Last participated in ARPD	In the current school year	Last school year	Between 3-5 years	Between 6-8 years	More than 8 years
	58%	19%	17%	5%	1%

Type of ARPD	School or district assigned	Choice offered by school or district	Reading teachers association	Professional learning Committee
	42%	42%	9%	7%

Extent of opportunities to:	Not at all	Somewhat	To a great extent
see modeling	11%	57%	32%
examine classroom artifacts	24%	51%	25%
for follow-up after use in classroom	20%	49%	31%
school collaboration	13%	47%	40%
district collaboration	33%	44%	23%
waste of time	68%	28%	4%

Note. Opportunity of ARPD *N*=161., Characteristics of ARPD *n*=96.

Understandings from All Professional Development

Reported Understanding and End Learning	Not at all	Somewhat	To a great extent
Deepening of own reading content knowledge	17%	53%	30%
Learning how to have taught nonfiction reading comprehension strategies for your subject	13%	53%	34%
Learning about difficulties that students may have with nonfiction reading comprehension for your subject	17%	51%	32%
Finding out what students think or already know about key nonfiction reading strategies prior to instruction on those ideas	23%	51%	26%
Implementing a nonfiction reading strategy instruction program to be used in your classroom	27%	37%	36%
The planning of instruction so at-risk students can increase their understanding and comprehension of nonfiction reading	25%	38%	37%
Monitor understanding of student during reading instruction	12%	38%	50%
Assessing student understand and comprehension at the conclusion of instruction	11%	39%	50%

Note. N=161.

Perception of Preparedness of Nonfiction Reading Content and Instruction

Preparedness of Content	Not adequately prepared	Somewhat prepared	Fairly well prepared	Very well prepared
Activating prior and background knowledge	0%	12%	37%	51%
Inference	3%	13%	39%	45%
Generating and answering questions	0%	14%	39%	47%
Visualization	0%	16%	34%	50%
Text structure and organization	3%	13%	39%	45%
Monitor understanding and comprehension strategies	4%	18%	34%	44%
Summaries	1%	15%	40%	43%

Preparedness of Instruction	Not adequately prepared	Somewhat prepared	Fairly well prepared	Very well prepared
in planning instruction for different levels	2%	25%	42%	30%
teaching nonfiction to whole class	2%	18%	37%	42%
teaching nonfiction to LERD or at-risk	9%	25%	41%	25%
differentiating to have met needs	8%	28%	36%	28%

Note. N=161.

Belief as the Instructional Leader

Belief as the Instructional Leader	Strongly disagree	Disagree	Not Sure	Agree	Strongly Agree
Learning to read in upper elementary	0%	3%	2%	45%	50%
Instructors should not focus on reading if not a reading teacher or in curriculum	67%	25%	3%	3%	2%
Nonfiction reading strategies should be taught no matter the subject	0%	5%	6%	45%	44%
Inadequacies in background can be overcome with effective teaching	1%	5%	15%	47%	32%
To be effective, teachers should know content, instruction, and students	0%	0%	3%	26%	71%
Late emerging reading difficulties who can read but not comprehend just need more time in subject	7%	32%	21%	25%	15%
A student at-risk needs instruction differently	1%	11%	10%	48%	30%
Differentiation needs to be done ahead of time to be effective	3%	20%	17%	30%	30%

Note. N=161.

Reported Control

Reported Control	No Control	Moderate Control	Great Control
Selecting content, topics, and skills outside of course goals and objective	16%	40%	44%
Selecting teaching techniques	2%	32%	66%
Choosing criteria for grading student performance	9%	36%	55%

Note. N=161.

Reported Planning and Instruction Strategy

Planning and Instruction Strategy	Never	Rarely (A few times a year)	Sometimes (Once or twice a month)	Often (Once or twice a week)	All the time
Teaching reading strategy to whole class	2%	2%	9%	35%	52%
Checking for comprehension of nonfiction materials	3%	4%	8%	33%	52%
Planning comprehension lessons with At-risk in mind	6%	3%	13%	40%	38%
Differentiating lessons for needs	3%	6%	12%	40%	39%

Note. N=161.

Direct Instruction of Strategies Using Modeling, Think A-louds, and Authentic Practice

Direct Instruction Strategies	Never	Rarely (A few times a year)	Sometimes (Once or twice a month)	Often (Once or twice a week)	All the time
Activating prior knowledge and background	0%	2%	6%	29%	63%
Inferencing	0%	3%	7%	39%	51%
Generating and answering questions	0%	5%	11%	29%	55%
Visualizing text	0%	5%	9%	33%	53%
Text structure and organization	2%	5%	13%	39%	40%
Monitoring understanding/comprehension and finding a fix	1%	2%	10%	29%	58%
Summarizing	3%	4%	12%	38%	43%

Note. N=161.

Reported Effect of State and Local Policies on Nonfiction Instruction

Effect on Nonfiction Instruction	Inhibits effective instruction	Mixed	Promotes effective instruction	Not Sure
Current state standards for subject	5%	40%	48%	7%
District curriculum framework	12%	42%	40%	6%
District or state pacing guides	21%	43%	29%	7%
State testing/accountability policies	43%	34%	18%	5%
District testing/accountability policies	30%	44%	22%	4%
Teacher evaluation policies	16%	41%	36%	7%
Students general reading ability upon entering grade	19%	43%	32%	6%
Time for planning	21%	24%	49%	6%
Time for professional development	13%	33%	48%	6%
Label given to a student	22%	45%	22%	11%

Note. N=161.