Structured Literacy in Practice: A Study of Fundations® Implementation in Second Grade at RTS

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Abstract

Literacy is fundamental to academic success, yet national and state assessments indicate that many students are failing to develop essential reading skills. The 2022 National Assessment of Educational Progress (NAEP) revealed significant declines in reading proficiency among fourth and eighth graders, with similar trends observed in Virginia. Research emphasizes that strong foundational reading skills—such as phonemic awareness, alphabet knowledge, and decoding—are critical for literacy achievement. However, effective reading instruction requires educators to have a deep understanding of evidence-based practices, particularly for students at risk of reading failure.

This capstone study investigates the factors that teachers perceive as facilitating or hindering the implementation of foundational reading instruction through a structured literacy (SL) program, Fundations®, in a public elementary school in Virginia. Using a qualitative case study approach, the research examines the extent to which teachers implement SL with fidelity, the barriers they encounter, and the supports that enhance instructional effectiveness. Findings will provide insights into improving literacy instruction by addressing challenges in program implementation and strengthening teacher support systems to enhance student reading outcomes.

Keywords: reading, phonics, foundational skills, implementation, fidelity

Dedication

To my children—so they know that through hard work all things are possible.

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My Beloved, Leon Hill, who has been with me since this was just a spark of an idea—your strength and support have meant everything to me. Thank you for your belief in me, your love, and your constant encouragement. *I can't wait to see what the future holds for us*.

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Chapter 1: Introduction

Literacy is essential for success in today's world, enabling individuals to access knowledge and exchange ideas across diverse contexts. As students acquire literacy skills, they build a foundation for learning in all subject areas. The International Literacy Association (ILA, 2019) defines literacy as "the ability to identify, understand, interpret, compute, and communicate using visual, digital, and audible materials in any context" (p. 1). Despite its importance, reading and writing are not natural processes and must be explicitly taught to develop new brain circuits that support these skills (Gotlieb et al., 2022). However, many students across the nation are failing to meet proficiency levels in reading and writing. According to the 2022 National Assessment of Educational Progress (NAEP), the national average reading score for fourth graders was the lowest since 2005, and the average score for eighth graders was the lowest since 1998, with declines observed across all demographic groups (NAEP, 2022). Virginia's results reflect similar trends. In 2022, only 32% of fourth-grade students were reading at a proficient or advanced level, with 68% reading at a basic or below-basic level. Proficiency rates in the state dropped from 29% in 2019 to just 23% in 2022 (NAEP, 2022).

These troubling statistics underscore the urgent need to address the foundational skills necessary for reading success. Decades of research affirm that children who develop strong foundational reading skills—such as phonemic awareness, alphabet knowledge, and decoding—are significantly more likely to achieve reading success in later years (Brady & Moats, 1997; Castles et al., 2018; Connor, 2016; Foorman et al., 2016; Hudson et al., 2021; Moats, 2020; Piasta & Hudson, 2022; Piasta et al., 2009). These foundational skills serve as the bedrock of

literacy development, and their absence can hinder students' academic achievement, as reading and writing permeate all areas of learning (Foorman, 2016; Hudson et al., 2021; Moats, 2020).

In order for children to develop strong foundational skills, it is essential that teachers in primary grades have strong evidence-based knowledge to teach reading so that they can effectively teach these skills to all students, especially students at risk of reading failure (Binks-Cantrell et al. 2022; Moats, 2020; Piasta & Hudson, 2022). Research shows that quality reading instruction is the best defense against reading failure; however, reading is complex and therefore challenging to teach (Binks-Cantrell et al., 2022, Piasta & Hudson, 2022). This capstone will investigate the factors that teachers perceive as facilitating or hindering the implementation of foundational reading skill instruction through a structured literacy program in a public elementary school in Virginia.

Understanding Reading Development

Learning to read depends on developing skills across two critical areas. Successful reading requires students to 1) accurately and fluently read words in text and 2) comprehend the meaning of texts. An empirically validated framework for understanding the component skills necessary for successful reading comprehension is the simple view of reading (SVR, Gough & Tunmer, 1986; Hoover & Gough, 1990). This framework states that both word recognition and language comprehension equally contribute to students' reading development, and proficiency in both is necessary for successful reading comprehension. Hoover and Tunmer (2020) defined these component skills and their product as follows:

- “Word recognition is the ability to recognize printed words accurately and quickly to efficiently gain access to the appropriate word meanings contained in the internal mental lexicon.
- Language comprehension is the ability to extract and construct literal and inferred meaning from linguistic discourse represented in speech.
- Reading comprehension is the ability to extract and construct literal and inferred meaning from linguistic discourse represented in print” (p. 400).

Scarborough (2001) offered a model to extend the SVR further, exploring the complexities of reading by breaking down word recognition and language comprehension into subcomponent skills. Each subcomponent skill represents a thread in a rope, and when all threads are combined, they form a tightly woven “reading rope” illustrating reading comprehension as a combination of these combined skills (Scarborough, 2001). The rope explains language comprehension as including a number of interwoven subcomponent skills, including background knowledge, vocabulary knowledge, language structure (syntax and semantics), verbal reasoning, and literacy knowledge. Subcomponent skills involved in word recognition include phonological awareness, decoding, and sight recognition. Many students' reading difficulties stem from foundational reading skill issues (Spear-Swerling & Brucker, 2004). According to Brady (2020), students may have deficits specifically in phonological awareness (i.e., awareness of sound structure in spoken language) and/or alphabetic knowledge (i.e., letter naming, letter sound recognition, and forming and writing letters). Reading difficulties stemming from these subcomponent skills are concerning as they are foundational to learning to read.

Word Recognition Skills

Word recognition skills include key subcomponents such as phonemic awareness, alphabet knowledge, decoding, encoding, and sight word recognition. They are essential to early literacy development (Foorman et al., 2016). These skills allow students from all backgrounds the greatest chance to learn how to read proficiently (Hudson et al., 2021). Moats (2020) asserts that 95% of all students can be taught to read by the end of first grade with proper instruction. Specific to this capstone, Rocky Top Elementary School (RTS; pseudonym), including all other elementary schools in its division, decided to focus on building foundational reading skills in the primary grades for two reasons: 1) research has clearly established the importance of word recognition skills in learning to read, and 2) primary grade students at RTS have shown significant challenges in these foundational reading skills. To address this need RTS began implementing a program developed to target foundational word recognition skills in kindergarten through second grade (K-2). To underscore their importance to reading development in the primary grades, the following sections detail each skill necessary for word recognition and related research.

Phonemic Awareness. Phonemic awareness is a foundational reading skill and helps students learn the alphabetic principle or grapheme-phoneme correspondence. Phonemic awareness is the awareness that words are made up of individual sound parts (Brady, 2020). This awareness shifts from an understanding of larger units of sound like syllables (e.g., *ro-bot,* and *el-e-phant*) to smaller units of sound such as onsets (i.e., beginning sounds) that start a syllable like /b/ in *bag* and /s/ in *sack* and individual phonemes (i.e., individual sounds) like /b/ /a/ /g/ in *bag* and /s/ /a/ /k/ in *sack* (Brady, 2020). According to Gillon and McNeil (2009), phonemic awareness is a "powerful predictor of early reading development" (p. 72), and deficits in this

area can lead to persistent reading issues. Children who have successfully mastered phonemic awareness can manipulate the phonemes to segment individual sounds in words and blend those sounds to form the word (Kilpatrick, 2015).

Alphabet Knowledge. Alphabet knowledge is the understanding of a letter's form, name, and associated sound. A child's alphabet knowledge early in schooling is an important predictor of their later reading achievement (National Early Reading Panel, 2008). Conversely, limited alphabet knowledge can be a precursor of later reading difficulties (Piasta et al., 2012). As children develop their alphabet knowledge, they are also building an understanding of how letters build words and how these words hold meaning – in print.

Alphabetic Principle as a Critical Insight. A cornerstone of the alphabetic principle is the connection between the visual symbols of letters (i.e., graphemes) to their corresponding speech sounds (i.e., phonemes). The alphabetic principle is the understanding that there are systematic and predictable relationships between written letters and spoken words (Ehri, 2020). Thus, the alphabetic principle requires 1) the understanding that spoken words are divided into individual sounds (i.e., phoneme awareness), 2) the understanding that words are made up of letters and those letters represent the individual sounds of speech, and 3) the ability to translate the letters in printed words to the sounds they make so readers can read and pronounce, or decode, words accurately (Baker et al., 2018). This can be extended to translating the sounds they hear to letters as they spell, or encode, words accurately. Ultimately, students need to understand that the visual symbols represent the sounds of the letters and that the written word represents the spoken word as they build an understanding of the systematic and predictable relationships between graphemes and phonemes (Gehsmann & Mesmer, 2023). To read fluently

and successfully decode words, students must develop the alphabetic principle (Gehsmann & Mesmer, 2023; Baker et al., 2018).

Decoding. Decoding is a strategy readers use to read unfamiliar words. It involves transforming graphemes into phonemes that are blended together to make a whole word and then searching the lexicon, or word memory, for familiar spoken words that match the blended word (Ehri, 2017). In other words, readers sound out words from left to right using their knowledge of letter sounds and then blend those sounds together to form recognizable words. As readers successfully decode words, these words begin to develop the reader's mental lexicon where they store words they know by "sight" or automatically without the need to decode (Ehri, 2017).

Encoding. Encoding refers to the ability to translate sounds into written symbols and letters. It is a crucial component of reading instruction and literacy development (McNeil et al., 2023; Graham & Harris, 2000). It involves understanding the phonemic structure of words and being able to represent those sounds with corresponding letters or letter combinations. Spelling from the earliest phases of literacy instruction "plays a key role in facilitating children's ability to systematically use phonological information in their reading attempts" (McNeil et al., 2023, p. 993). Explicit encoding instruction is an important complement to decoding instruction in beginning literacy as there is a reciprocal relationship between the two skills (McNeil et al., 2023). Overall, encoding plays a vital role in reading instruction by providing the foundational skills necessary for decoding and early literacy skills.

Sight Recognition. Learning to read words from memory accurately and automatically is a big hurdle for beginning readers and requires requisite skills (e.g., phonemic awareness) to get over that hurdle. Reading words at first sight involves activating pronunciation and meaning information automatically, which helps readers focus on comprehension of the text instead of

word recognition. Students using decoding strategies to figure out words they have not read before and rereading those unfamiliar words a few times typically moves the words into memory so they can be read by first sight (Ehri, 2017). Ehri (2017) asserts that all words, not just high-frequency words (i.e., words that appear frequently in written text like *the* and *is*), are read by engaging in automatic mapping of phonemes to graphemes. To build a memory of words, orthographic mapping is required. As Ehri (2017) states:

> "Readers must form connections between the spellings and pronunciations of specific words by applying knowledge of the general writing system. When readers see a new word and say or hear its pronunciation, its spelling becomes mapped onto its pronunciation in memory. These mapping connections serve to "glue" spellings to their pronunciations in memory" (p.129).

Structured Literacy as an Effective Instructional Approach

Appropriate approaches to instruction and intervention are critical to forming solid word recognition skills (IDA, 2023). These instructional practices should be based on research evidence and informed by using a combination of equal parts instructional principles (i.e., strategies, methods and techniques used to teach) and foundational content (i.e., topics, concepts, and information being taught). Specifically, research shows that highly effective reading instruction should include aspects of a structured literacy (SL) approach to teach foundational word recognition skills in the early elementary years (Binks-Cantrell et al. 2022; Foorman et al., 2016; Ray, 2020; Spear-Swerling & Brucker, 2004; Spear-Swerling, 2018; Vaughn & Fletcher, 2020). SL approaches include 1) specific learning goals to meet student's assessed needs, 2) differentiated instruction with small groups or individuals, and 3) use of direct, explicit instruction with immediate and frequent feedback (Vaugh & Fletcher, 2020). IDA (2023)

expands this guidance to explain that essential instructional principles guide how foundational reading and writing content should be taught. These instructional principles incorporate:

- explicit, sequential, cumulative, and multimodal instruction that is
- data driven, scaffolded, and highly interactive with
- multiple opportunities for practice with targeted immediate feedback.

Although SL is an approach recommended for students with reading disabilities like dyslexia, researchers assert that the SL approach is an effective strategy for teaching foundational literacy skills to all students, including Tier 1 general education instruction (IDA, 2023; Moats, 2020; Spear-Swerling, 2018). SL works for students whether they surpass reading benchmarks, meet benchmarks, or are struggling to meet those benchmarks and are at risk for reading failure. Foorman and colleagues (2016) assert that if more schools adopted features of SL in their Tier 1 instruction, schools could help prevent or ameliorate many children's difficulties with learning to read and write.

In summary, foundational word recognition reading skills are an essential element to developing literacy skills that lead to proficient reading. An effective way to teach students these foundational reading skills is through a SL approach. In this way, students are explicitly, systematically, and sequentially taught the key foundational reading skills that lead to proficient reading explained by SVR and further extended in Scarborough's Reading Rope (Spear-Swerling, 2018). While language comprehension is equally essential to proficient reading, due to the importance of foundational word recognition reading skills in primary grades, this capstone focuses on these skills that are foundational to early reading success.

Fundations®: A Structured Literacy Program Focused on Foundational Reading Skills

Fundations® is a widely used commercial program developed by Wilson Language Training® designed to address foundational reading skills in a Tier 1 setting using SL instructional principles (Spear-Swerling, 2018; Wilson, 1988). It is often used as a supplemental program to a core curriculum when the core curriculum does not provide adequate instruction in skills foundational to word reading because it is squarely focused on foundational word reading skills. The 30-minute Fundations® lessons are designed to be delivered in a whole group and begin with cumulative review of previously taught skills before moving to the new skill instruction followed by opportunities for applied practice. Assessments are built into the lessons to inform data-driven decisions such as how to group students for small, differentiated lessons for reteaching skills.

Teachers are trained to ensure proper implementation of each scripted lesson. In other words, teachers are trained to follow the lessons to fidelity using specific language guidance as well as step-by-step instructions on how to deliver the lessons. The manual tells the teacher exactly what to teach, how to teach it, and what to say. While the program supports implementation in these ways, teacher knowledge is still required and essential to be able to explain concepts to students in addition to correcting students' errors and giving accurate and productive feedback (Cohen et al., 2017).

Teacher Content Knowledge and Instructional Delivery

Helping students develop reading proficiency requires more than just lesson implementation; it demands skilled and knowledgeable educators who understand the complexities of literacy acquisition. Research has increasingly emphasized the critical role of

teacher knowledge in shaping effective reading instruction (Cohen et al., 2017). According to Gotlieb et al. (2022), the job of the reading educator is to help the student's brain develop a new skill that it could not learn on its own and therefore develop a new circuit in the brain. This requires teachers to have specialized content knowledge (e.g., the sound structure of the English language) in addition to knowledge of best instructional practices (Moats, 2020). Even if foundational reading skills are taught using SL instructional principles with a scripted program like Fundations®, teachers must have enough knowledge to 1) correctly identify, interpret, and respond to student's mistakes; 2) provide corrective feedback in response to those mistakes; 3) provide additional application opportunities using quality examples; 4) adapt instruction to meet student's needs; and 5) explain things to students in a way they can understand (Cohen et al., 2017). In addition, using a scripted program without high levels of knowledge can, and often does, lead to ineffective teaching which undermines the purpose of the scripted program (Moats & Foorman, 2003).

Teacher knowledge about reading instruction, particularly language concepts, has been extensively studied (Cohen et al., 2017). Research clearly states that struggling readers need to have explicit and intensive foundational skills reading instruction. Even though research has not firmly landed on what level of knowledge teachers need to have to help kids effectively, there is research that indicates that teachers lack some requisite knowledge in critical areas like reading development, essential content of effective reading instruction, and appropriate instructional strategies to support students as they learn to read (Cohen et al., 2017; Gotlieb et al., 2022; Moats, 2020). For example, Cohen et al. (2017) surveyed one-hundred and fourteen kindergartens through third grade teachers using *The Survey of Preparedness and Knowledge of Language Structure Related to Teaching Reading to Struggling Students* to determine the level

of knowledge and application of language structure, phonics, and other code-based concepts. The participants were broken into two groups based on their districts' use or nonuse of scripted programs for code-based reading instruction. Sixty teachers were in the code-based scripted program group and 54 teachers were in the non-code-based scripted program. The survey results revealed that most teachers in both participant groups lacked the essential code-based reading knowledge and application skills needed to effectively teach struggling readers (Cohen et al., 2017). Furthermore, the study suggested that using a scripted program did not guarantee that teachers had a strong understanding of language structure (i.e., the way words, phrases, and sentences are arranged within a language including morphology, syntax, and phonology) phonics, or other foundational reading concepts (Cohen et al., 2017).

Teacher content and instructional knowledge of foundational reading skills, language structure in particular, is correlated to students' achievement in literacy (Moats & Foorman, 2003; Peltier et al., 2020). While some studies have found no significant association with teacher content and instructional knowledge and student achievement, there is research that points to teacher knowledge of reading-related concepts as an area of concern and can be related to student outcomes (Solari, 2022). For example, Moats and Foorman (2003) surveyed 194 teachers, 50 kindergartens through second grade teachers (Form 1), 41 second and third grade teachers (revised, Form 2), and 103 third and fourth grade teachers (final, Form 3) to measure their content knowledge in language and reading. The purpose of the study was to explore the types and levels of questions that would 1) begin to identify the more knowledgeable teachers from the less knowledgeable teachers, 2) address teachers' needs and insights for professional development in language structure and instructional knowledge, and 3) show a predictive relationship with students' outcomes in reading (Moats & Foorman, 2003). Their findings

showed there to be a predictive relationship between teacher knowledge and classroom reading achievement levels. They found that teachers who had more experience and gained reading content knowledge through professional development tended to have better student reading achievement. The results showed 65% of the teachers surveyed had limited to partial knowledge of language and reading development, further highlighting teacher knowledge of reading-related concepts as concerning (Moats & Foorman, 2003).

In another study, Piasta et al. (2009) examined the relationship between teacher knowledge, explicit decoding instruction and students' word reading gains. They found that students with more knowledgeable teachers who spent more time on explicit instruction made greater gains in word reading (Piasta et al., 2009). In contrast, students with less knowledgeable teachers, who provided less explicit instruction, showed weaker word reading gains. This study underscored the crucial role of teacher expertise in reading content, as it directly influences the quality of instruction delivered. It makes sense that teachers who are more knowledgeable in the content and instructional principles of effective reading instruction would be more effective in teaching foundational reading skills than teachers who do not have the necessary knowledge in these areas.

In summary, teacher knowledge constitutes a linchpin of effective reading instruction, serving as a catalyst for literacy development and student achievement. While teachers need expertise in foundational word level reading skills and SL instructional principles to create meaningful learning experiences that empower students to become proficient readers – even when using scripted, supportive programs, the story research tells is complex. There is still much we do not know about what kinds of knowledge matter most, the levels of knowledge that are essential, and how access to high-quality curriculum combines with teacher knowledge to create

the right conditions for student achievement. To unlock the full potential of every learner, teachers must be equipped with not only the requisite skills and knowledge but also the resources and curricular supports that synergize with their expertise.

Problem of Practice

RTS, like many schools in the nation, is struggling to produce highly literate students who have strong foundational reading skills. Reading assessments at RTS like the Phonological Awareness Literacy Screening (PALS) show trends of limited reading growth in word level reading skills for the last three years. Specifically, a large number of RTS students in grades one through three are not meeting statewide benchmarks on PALS. The state screener, PALS, identifies students who are experiencing difficulties acquiring early reading skills, including essential foundational reading skills such as spelling and word recognition. Using a summed score for these tasks, PALS identifies students who are at risk of reading difficulty and require additional instruction and intervention to address their needs.

Due to the persistent failing reading scores across multiple years of the students at RTS, the Rocky Top City School Division set a goal to improve foundational reading skills by implementing the SL program Fundations® to impact student outcomes. Table 1.1 shows the end of year PALS results in percentages of students who did not meet the benchmark during the 2016-2017, 2017-2018, and 2018-2019 school years. As seen in the table, the three years leading up to the decision to implement Fundations® demonstrate the relatively stagnant scores from year to year with the first-grade percentages hovering around a quarter of all first graders falling below the benchmark at the end each year and second grade with nearly a third falling below the benchmark.

Table 1.1

End of the Year PALS Percentages 2017-2019

	Spring 2017	Spring 2018	Spring 2019
First Grade	24	28	24
Second Grade	29	28	32

Table 1.2 shows the below benchmark percentages for first and second grade students from beginning to end of year to demonstrate student reading growth, starting in the 2021-2022 school year. In first grade, these percentages demonstrate a trend of student progress fall to spring. For example, in the fall of 2021, 70% of first graders scored below the benchmark with only 22% by spring 2022, and in the fall of 2022, 40% score below with only 5% in the spring. In fall 2022 and 2023, 40% and 44% of students, respectively, identified as below the benchmark, compared to 70% fall 2021.

Second grade trends offer a view of RTS student reading growth. In the 2021-2022 school year, the percentage of second graders identified as below benchmark decreased from 72% to 44%. While this shows a decrease of student identified, the year ended with nearly half of RTS second graders below the benchmark. Although the beginning-of-year percentage decreased in 2022 slightly from 72% to 63%, nearly two-thirds of RTS second graders started the year without the skills necessary for reading success. This trend is concerning, as the end-of-year results from the second year of Fundations® implementation show minimal improvement; the percentage of second graders below benchmark remained almost unchanged, rising slightly from 63% in fall 2022 to 65% in spring 2023. The trend continued into fall 2023, with 61% of second graders below benchmark, and by spring 2024, this figure had increased to 67%.

Table 1.2

PALS Below Benchmark Percentages Grades 1-2

	Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	Spring 2024
First Grade	70	22	40	5	44	38
Second Grade	72	44	63	65	61	67

The realization that students in second grade were not showing significant progress led the capstone's inquiry to the following research question:

Research Questions

1. To what extent are second-grade teachers at RTS using the structured literacy program, Fundations®, with fidelity?
2. What are second-grade teachers' perceptions of the facilitators influencing the implementation fidelity of the Fundations program at RTS?
3. What are second-grade teachers' perceptions of the barriers influencing the implementation fidelity of the Fundations program at RTS?

Local Setting

RTS administration and staff have worked diligently to increase the reading skills of students and to create a culture of literacy; however, the school continues to struggle to meet the needs of its students. Located in southwest Virginia, RTS is part of the Rocky Top City School Division, which has 9,000 students enrolled in preschool through adult classes, including two high schools, three middle schools, and eleven elementary schools. One of the eleven elementary schools, RTS serves 500 students from pre-kindergarten through grade five. Of the school's 500

students, 60.5% are Black, 26.4 % are White, 3.1 % are Hispanic, 1% are Asian, and 99% are considered economically disadvantaged (Virginia Department of Education, 2023). There are 44 full time teachers, of whom 61% are certified.

Key Stakeholders

Creating a strong literacy-rich environment is beneficial for all stakeholders. These stakeholders include the students, caregivers, teachers, district leaders, schools board members and community members. Each of these stakeholders have an interest in improving reading outcomes for the primary grade students and each have a role in this process. As with all school-divisions, high-level decisions are made by district administrators and school board members. Thes district administrators and school board members highlighted the need for change in reading instruction and made the decision to focus on primary grades, specifically using Fundations® to address foundational reading skills.

School-level stakeholders, including teachers and instructional coaches, engaged in training to ensure successful implementation of the program. Teachers received a two-hour training at the division level with a one-hour follow up at the school level. After initial training, schools provided ongoing support through grade-level meetings throughout the school year; however, there is no division-wide guidance or expectation about these ongoing supports. In addition to implementing Fundations®, the division funded Language Essentials for Teachers of Reading and Spelling (LETRS; Moats & Tolman, 2019) training for all coaches. LETRS training covers all components of the SVR and Reading Rope, including in-depth coverage of both content knowledge in foundational word reading skills as well as principles of effective instruction consistent with SL principles.

Conceptual Framework

This conceptual framework guiding this capstone is grounded in established fidelity of implementation models from Century et al., 2010 and Carroll et al., 2007. It provides a structured approach to evaluating the implementation of the Fundations® program in second-grade classrooms at RTS. This integrated framework consists of four core components—Adherence, Exposure, Participant Responsiveness, and Quality of Delivery—as well as a consideration of potential moderators that may influence implementation outcomes.

Adherence refers to the extent to which teachers follow the prescribed elements of the Fundations® program as intended. This includes delivering content, instructional methods, and activities in alignment with the program design. Observing adherence ensures that deviations from the program do not compromise its intended outcomes. Exposure examines the duration and frequency of program delivery. This includes the amount of time spent teaching Fundations® lessons, the completion of required instructional units, and the degree to which students are exposed to the curriculum content. Adequate exposure is critical to achieving the program's intended learning outcomes. Participant Responsiveness captures the engagement and involvement of the students. For students, this includes their active participation, interest, and behavioral engagement during lessons. Quality of delivery focuses on how effectively teachers implement the program. It includes aspects such as pacing, transitions, clarity of instruction, the explicit teaching of patterns and rules, and the provision of timely and accurate feedback to students. High-quality delivery ensures that instructional practices align with the goals of the program.

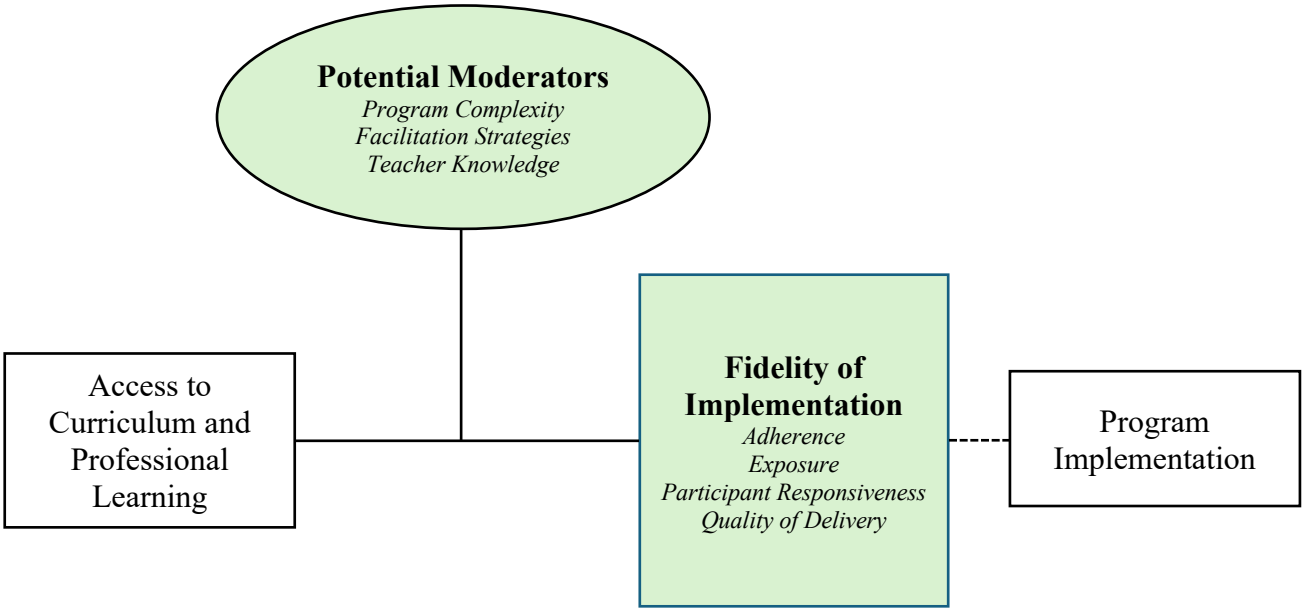
The framework also recognizes factors that may potentially influence the fidelity of implementation such as the program complexity. The complexity of the Fundations® program, including the number of components, depth of content, and required instructional strategies, may affect how easily teachers can implement it with fidelity. Another possible moderator to the FOI is Facilitation Strategies. The availability and effectiveness of support mechanisms, such as professional development, coaching, and instructional resources, can moderate the fidelity of implementation by addressing challenges and building teacher capacity. Another important potential moderator to FOI may be Teacher Knowledge. Teachers' understanding of the Fundations® program and their broader knowledge of literacy instruction play a critical role in implementation fidelity. Teachers with strong content knowledge and pedagogical skills are more likely to deliver lessons effectively and adapt them thoughtfully when necessary.

This framework provides a comprehensive lens for assessing the fidelity of the Fundations® program implementation. By analyzing adherence, exposure, participant responsiveness, and quality of delivery while accounting for potential moderators, this model offers valuable insights into the factors that influence implementation outcomes and guides efforts to enhance program effectiveness. Figure 1.1 provides a visual representation of the conceptual framework guiding this capstone.

Figure 1.1

Fidelity of Implementation with Moderators Conceptual Model

Adapted from Carroll et al., (2007) and Century et al. (2010)



Chapter Summary

The Simple View of Reading (SVR) and Scarborough's Reading Rope both underscore the importance of two essential components in learning to read: word recognition and language comprehension. According to these models, early reading skills, which include decoding and recognition of high-frequency words, are foundational for building automaticity in word recognition. As students gain these skills, they are better equipped to read fluently and comprehend texts, especially in early education. Educators who have a solid understanding of these skills can positively impact student reading development by integrating structured literacy (SL) techniques into foundational instruction, which can improve literacy outcomes for a majority of students—up to 95%, according to Moats (2020).

A fidelity of implementation conceptual framework informed by conceptual frameworks developed by Caroll et al. (2007) and Century et al., (2010) supported the exploration of the program of practice. Consideration of fidelity of implementation alongside common moderators of implementation will help me determine and understand what obstacles RTS second grade teachers are experiencing when delivering the Fundations® program. In the next chapter, I will review existing literature related to the problem of practice.

Definition of Terms

alphabet knowledge	the ability to name letters, associate letters to sound, form letters, and use those letters when reading and writing
alphabetic principle	the understanding that spoken words are made up of phonemes which are represented by graphemes
content knowledge	knowledge of the subject matter or material that is being taught
decoding	a strategy readers use to read unfamiliar words by sounding out an unknown word using letter-sound knowledge and blending sounds together
encoding	using individual sounds and letter patterns to build, spell and write words
grapheme	letters or letter combination that represent phonemes in written language
instruction	strategies, methods, and techniques that teachers use to impart information to students and facilitate learning
language comprehension	the ability to extract and construct literal and inferred meaning from linguistic discourse represented in speech
orthographic mapping	knowledge of the spelling patterns used in a language, including letter-sound knowledge, but also more complex spelling patterns
phoneme	the smallest unit of sound in language
phonological awareness	is the awareness that words are made up of individual sound parts
phonics	an approach to reading instruction that emphasizes teaching the alphabetic principle, phoneme-grapheme correspondences, and strategies for decoding, including isolating practice reading words and contextualized practice in decodable text
reading comprehension	the ability to extract and construct literal and inferred meaning from linguistic discourse represented in print
sight recognition	reading words from memory accurately and automatically
word recognition	the ability to recognize printed words accurately and quickly to efficiently gain access to the appropriate word meanings contained in the internal mental lexicon

Chapter 2: Literature Review

Acquiring literacy skills is a fundamental pillar for future academic success and lifelong learning (Foorman, 2016; Hudson et al., 2021; Moats, 2020). Central to this process is the approach known as structured literacy (SL), a systematic and explicit method of teaching foundational reading skills. Unlike more traditional approaches, which may lack a clear, step-by-step progression, SL emphasizes the direct instruction of phonemic awareness, phonics, fluency, vocabulary, and comprehension in a cohesive manner (Moats, 2020; Spear-Swerling, 2018). This capstone study seeks to explore the impact of a SL approach using a state-approved reading program to enhance foundational word reading skills and overall reading development among young children. Chapter 2's literature review, therefore, examines relevant literature, starting with models of reading development and phases of reading development moving to the SL approach with a specific focus on foundational reading skills. The chapter ends with a review of requisite teacher knowledge and the elements of fidelity of program implementation.

Research underscores that establishing proficient reading skills in the early years serves as a cornerstone for broader academic achievements. Without a solid foundation in literacy, students may face persistent challenges in comprehending texts across subjects, hindering their overall educational progress. SL aims to mitigate these risks by equipping children with the necessary tools to decode and comprehend written language effectively (Binks-Cantrell et al., 2022; Foorman et al., 2016; Ray, 2020; Spear-Swerling & Brucker, 2004; Spear-Swerling, 2018; Vaughn & Fletcher, 2020). Furthermore, the importance of SL extends beyond initial reading proficiency; it can foster a positive attitude towards reading and learning. By examining key studies and scholarly articles, this review will explore the impact of SL on reading outcomes, identifying best practices and practical implications for educators.

Reading Development in the Early Grades

Early literacy skills provide a crucial foundation for lifelong learning and academic success. During the formative early grades children embark on a transformative journey from learning letters to comprehending complex texts. These skills encompass the ability to decode words, understand their meanings, and derive information from written texts. Research shows that many students experience reading as a laborious task (Duke & Cartwright, 2021). The 2022 report from the National Assessment of Educational Progress (NAEP) showed that the average reading score for fourth grade was the lowest since 2005 and the average eighth-grade score was the lowest since 1998 (NAEP, 2022). Understanding reading development provides insight into the importance of these early skills.

Simple View of Reading

Gough and Tunmer's Simple View of Reading theory (SVR; 1986) offers a basis for understanding the key foundational reading skills necessary for reading proficiency. SVR posits that reading comprehension is a result of two foundational constructs: 1) word recognition or decoding and 2) linguistic comprehension. Without proficiency in these constructs, it argues that reading becomes a laborious task, hindering comprehension and overall enjoyment. Research shows that many students, both nationally and locally, experience reading as a laborious task (Duke & Cartwright, 2021). One reason reading is such a task for so many students may be due to limited proficiency in crucial foundational skills necessary for word recognition and decoding.

Gough and Tunmer (1986) argue that both linguistic comprehension and decoding, or efficient word recognition, are necessary for reading success. The reader needs both skills to comprehend the written text, and if a student struggles with one or the other components, comprehension is often elusive. When students struggle with word recognition, limited reading

accuracy can impact how well they understand what the author is trying to communicate. The authors suggest that decoding is more strongly correlated with reading comprehension in the early grades. As students' progress to later grades, the connection between linguistic comprehension and decoding grows stronger, with linguistic comprehension becoming the more dominant factor (Gough & Tunmer, 1986).

Scarborough's Reading Rope

In 2001, Scarborough developed a "Reading Rope" model that extended the SVR constructs to include sub-skills. According to the rope model, word-level reading consists of phonological awareness, decoding, and sight word recognition. The linguistic comprehension part of this equation includes background knowledge, vocabulary, language structures, verbal reasoning, and literacy knowledge. Through this model, we further understand the foundational sub-skills that make up the overarching word-level reading and linguistic comprehension constructs of the SVR equation. The rope model shows that each strand, or skill, begins as an individual thread. As the skill develops, it weaves around the other skills building a tighter, thicker strand. As word-level reading becomes more automatic and the linguistic side becomes more strategic, the two constructs cross and begin weaving together to develop one rope. Once that rope is tight and all the skills combined are solid, fluent reading with comprehension exists (Scarborough, 2001).

Phases of Word Development

Foundational reading skills like phonological awareness, decoding, and automatic word recognition are essential for later reading success and, therefore, should be part of early elementary education. Understanding the path of word development for word reading skills is helpful in comprehending the importance of foundational reading skills (Ehri, 2014). Ehri (2005)

mapped out word-reading development in four progressive phases where sight words (i.e., words that students know without having to decode) are accumulating continuously in memory. These phases describe the progression of word reading abilities of typically developing children.

The development of word recognition skills typically progresses through identifiable phases, beginning with basic letter-sound associations and advancing to more complex phonemic awareness, phonics, and orthographic processing. These phases are crucial in building a robust vocabulary and enhancing reading fluency over time. Ehri (2005) defines these phases as pre-alphabetic, partial alphabetic, full alphabetic, and consolidated alphabetic, reflecting "the type of alphabetic knowledge that predominates the connections that are formed" (Ehri, 2005, p. 173). Ehri's (2005) phase theory demonstrates the cognitive progression that leads to accurate and automatic word recognition. In the pre-alphabetic phase, students have very little alphabetic knowledge. As they move onto the partial-alphabetic phase, children learn the names or sounds of the letters. They form partial connections because they cannot segment all the phonemes in words, and they lack full alphabetic knowledge. Children become full alphabetic when they can learn sight words by making full connections between letters in spelling and phonemes in pronunciations. The consolidated phase occurs when students start to retain more sight words into memory. They become more familiar with letter patterns and begin breaking up words into letter sequences, or chunks, reducing the number of connections necessary to secure it in memory (Ehri, 2005).

A child's movement through various developmental phases is intricately linked to the progression of foundational skills, meaning that limited growth in one area can significantly affect the development of others, and vice versa. In this context, the crucial role of instructional

practice becomes evident, as it nurtures these foundational skills and fosters interconnected growth across all areas.

Structured Literacy Approach

SL instruction is an approach that requires systematic, specific, direct instruction with clear, immediate feedback and a high level of student engagement. Moreover, SL is an evidence-based, efficacious methodology for teaching and developing key foundational reading skills (Evanovich & Scott, 2022; Klages et al., 2020; Ray, 2016; Spear-Swerling, 2018). SL programs are typically thought of for students with dyslexia, but this model of instruction has been shown to be effective for a variety of students who are learning to read (Cowen, 2016; Ray; 2020; Spear-Swerling, 2018). While the SL approach encompasses literacy skills from those considered to be foundational to more advanced skills such as reading comprehension, this capstone focuses on foundational word reading skills.

Focus on Foundational Word Reading Skills

Foundational word reading skills are the building blocks that lay the groundwork for a child's literacy development. These skills include phonemic awareness, decoding, encoding, and word recognition. Overwhelming evidence supports using explicit instructional techniques when teaching foundational skills (Ray, 2020). Ideally, these skills should be taught in the primary grades of elementary school as reading and writing are acquired skills and do not come naturally like speaking and understanding language (Ray, 2020).

Phonemic Awareness. One of the most important foundational skills to begin reading instruction is phonemic awareness (PA), or the ability to focus and manipulate the individual sounds in words. There is a vast amount of research that supports PA in early grade reading instruction (Brady, 2020; Moats, 2020; Ehri et al., 2001). Ehri et al. (2001) conducted a meta-

analysis of controlled experiments to evaluate the effectiveness of phonemic awareness on learning to read. This meta-analysis identified 52 studies, each demonstrating the impact of instruction in PA as statistically significant. In addition, these studies showed that not only did PA instruction help word reading, but it also indirectly supported reading comprehension (Ehri et al., 2001). Across the studies, researchers used six tasks to analyze and teach PA. These tasks included: 1) phoneme isolation, recognizing individual sounds in words, 2) phoneme identity, recognizing the common sound in different words, 3) phoneme categorization–finding the sound that does not belong in a set of words, 4) phoneme blending–combining a sequence of spoken sounds to form a recognizable word, 5) phoneme segmentation–counting the sounds in a word, and 6) phoneme deletion– recognizing a new word when a phoneme has been deleted (Ehri et al., 2001). Overall, these 52 studies showed that PA is one of the best predictors of how well children learn to read (Ehri et al., 2001).

Rice et al. (2022) also conducted a meta-analysis of 46 experimental and quasi-experimental studies with a total sample size of 3639 students to explore the impact of PA instruction in developing PA skills in preschool through first grade. This meta-analysis provided evidence that PA instruction was moderately effective in improving PA skills. The result of this meta-analysis provides further evidence of the "practical meaningful effects of PA instruction on PA skills in preschool and early elementary students" (p. 1282).

In conclusion, PA is a crucial foundational skill for developing reading abilities. It helps children recognize the sounds that form words, which is essential for reading, spelling, and writing. By focusing on phonemes, students can also enhance their decoding skills. Therefore, effective instruction and support in PA are vital in early education to equip children with the necessary skills to become proficient readers.

Decoding. Decoding is a foundational skill that is crucial for beginning readers. Decoding is the ability to translate written words into spoken language by understanding and applying the relationship between letters and their corresponding sounds. Once students have mastered a few letter sounds (i.e., consonants and short vowels) they can use that knowledge to read words in isolation and then in connected text (Foorman et al., 2016). Decoding allows students to independently tackle unfamiliar words, thereby expanding their vocabulary and enhancing their ability to comprehend written texts (Moats, 2020).

There is a substantial body of research underscoring the importance of decoding instruction in the early grades (Foorman et al., 2016). According to the National Reading Panel (2000), phonemic awareness and phonics (i.e., the relationship between sounds and letters) are crucial components of early reading instruction. These two skills form the basis of decoding, enabling children to sound out words accurately and ultimately to read words with automaticity.

Children who master decoding early tend to have higher levels of reading achievement compared to those who struggle with decoding (Ehri, 2005; Moats, 2020; Torgesen et al., 2006). Decoding proficiency allows children to read with greater fluency, which in turn supports comprehension and overall academic performance. What Works Clearinghouse highlights thirteen studies that showed strong evidence to support decoding as a foundational skill, having a positive impact on word reading (Foorman et al., 2016). Additionally, proficient decoding skills not only contribute to immediate reading success but also have long-term benefits. Children who develop strong decoding skills early are more likely to continue reading independently and engage in lifelong learning (Cunningham & Stanovich, 1997).

The wealth of research supporting decoding as a foundational skill underscores its critical role in early reading development. Effective instruction in decoding not only equips children

with the tools to read fluently and comprehend texts but also lays the groundwork for future academic success and overall literacy development.

Encoding. Encoding, or spelling, refers to the ability to translate spoken language into written symbols, a fundamental skill crucial for reading acquisition and development. One of the most important skills that enable students to encode or write is transcription (Graham & Harris, 2000). Students need to have the ability to accurately write down or record information in order to convert it into another form, such as encoding it into a different language or format. Transcription involves transforming what the writer wants to say into written symbols and primarily involves handwriting and spelling (Graham & Harris, 2000). Transcription is an important part of writing development because the execution of these skills consumes a young writer's time and attention, taking away from the other cognitive processes (Graham & Harris, 2000). Deficits in transcription skills such as inconsistent letter formation and inadequate spelling ability affect the ability to generate text (Baziz et al., 2022).

Literature reveals that reading and writing skills are interwoven, and instruction should be integrated instead of separate entities (Kim & Zagata, 2024); these skills should be taught together because "reading and writing have a symbiotic relationship such that integrated instruction of reading and writing successfully supports both skills" (Kim & Zagata, 2024, p. 787). Phoneme awareness and letter knowledge enable students to form connections between graphemes (i.e., a letter or combination of letters that spell a phoneme) and phonemes to bond spelling of words to their pronunciations and meanings in memory (Ehri, 2005). For example, if a student wants to write the word *cat*, they will first need to segment each sound, apply letters to each sound such as the beginning 'c' for /k/, and form each letter as they write on paper in order to communicate what they want to say.

A meta-analysis performed by Kim et al. (2023) showed that reading and writing are strongly related, especially in the sub skills of word reading and spelling. This meta-analysis also showed that students with strong reading skills tend to have strong spelling skills, and students with weak reading skills tend to have weak spelling skills (Kim et al. 2023). Additional studies argue that writing skill practice compliments reading skill practice and should always be taught in conjunction with each other (Graham & Herbert, 2010), especially in early elementary grades (Kim et al., 2023).

Overall, the literature reveals that encoding is an important foundational skill, and that when combined with explicit decoding instruction, it not only improves reading ability but also aids in handwriting and, ultimately, reading comprehension. Therefore, encoding instruction and practice should be a mainstay in early reading instruction.

Word Recognition. Word recognition is a fundamental component of reading proficiency, essential for understanding and fluency in language comprehension. It involves the ability to decode and identify words accurately and swiftly, which lays the groundwork for higher-level reading comprehension and academic achievement. Word recognition skills encompass both decoding and sight recognition or the rapid identification of familiar words without conscious decoding (Ehri, 2005). Mastery of these skills facilitates automaticity in reading, freeing cognitive resources for comprehension and higher-order thinking processes (Ehri, 2013). Ehri (2005) asserted that all words, with practice, can be read automatically by sight. Children learn to recognize words automatically by forming connections that link the spelling of a written word to the pronunciation and meanings in memory. These connections are made possible by the reader's knowledge of the alphabetic system. This connection is called orthographic mapping (OM; Ehri, 2013).

Orthographic mapping describes how children learn to read words by sight, spell from memory, and acquire new vocabulary from written text (Ehri, 2022). For OM to be effective, students need to have phonemic awareness, especially in blending and segmenting sounds. They must also understand key letter sounds or grapheme-phoneme correspondences, which allows them to decode (read) and encode (spell) words accurately (Ehri, 2013). The development of OM is a crucial insight leading student through Ehri's phases of word recognition, ultimately to the consolidated phase.

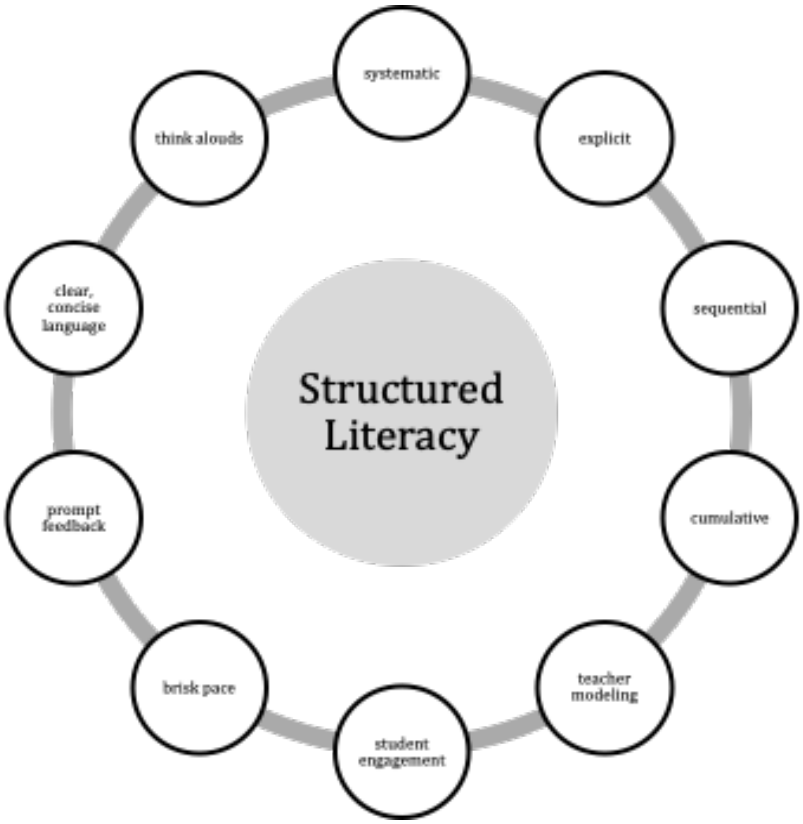
Focus on Instructional Practice

Structured Literacy is an approach based on a set of instructional practices that focus on "literacy related skills and components of oral language that play a key role in literacy development" (Spear-Swerling, 2022. p. 2). Its core principles are grounded in explicit, systematic instruction where fundamental components of reading and writing skills are first taught directly, then modeled through thinking aloud by the teacher which leads to guided practice (Archer & Hughes, 2011; Spear-Swerling, 2022). Systematic instruction follows an informed sequence of skills/concepts and involves cumulative practice (Spear-Swerling, 2022) Figure 2.1 illustrates the essential features of SL.

Figure 2.1

Essential Features of Structured Literacy

Adapted from Archer-Hughes, 2010; Spear-Swerling, 2018



Explicit Instruction. Instruction is called explicit when it is a direct, clear and straightforward way of teaching (Archer & Hughes, 2011). Explicit instruction is teacher-driven, intentional, and focused on individual student needs (Vaughn & Fletcher, 2020). Research shows that explicit instruction has beneficial outcomes for students who struggle to read (Foorman, 2016; Vaughn & Fletch, 2021). Teaching with direct and clear instruction combined with a demonstration of skills. This leaves no room for ambiguity and helps children know exactly what they need to learn (Archer & Hughes, 2011; Spear-Swerling, 2022). Archer and Hughes (2011)

described explicit instruction as a “series of scaffolds where students are guided through the learning process with clear statements about the purpose and rationale for learning the new skill, clear explanations and demonstrations of the instructional target and supported practice with feedback until independent mastery is achieved” (p. 1).

Archer and Hughes (2011) also identified sixteen key features of explicit instruction that can enhance teaching effectiveness. First, it's important to focus instruction on critical content and sequence skills logically, beginning with easier concepts before progressing to more complex ones. This includes teaching high-frequency skills first and ensuring mastery of prerequisite skills. To support learning, educators should break down complex skills and strategies into smaller, manageable instructional units. Lessons should be organized and focused, staying on topic and well-sequenced. Each lesson should start with a clear statement of goals and expectations, while also reviewing prior knowledge to build a solid foundation. Teachers are encouraged to provide step-by-step demonstrations using clear and concise language, along with a variety of examples and non-examples. Guided and supported practice is essential, as is requiring frequent student responses to engage them actively. Close monitoring of student performance allows for immediate and corrective feedback, ensuring that misunderstandings are addressed promptly. Maintaining a brisk pace during lessons helps keep students engaged, while strategies to help them organize their knowledge reinforce learning. Lastly, providing distributed and cumulative practice offers students multiple opportunities to apply both new and previously learned skills over time, enhancing retention and mastery. Two key features of explicit instruction: systematic, sequential, and cumulative instruction that includes modeling and think-alouds are detailed in the next sections.

Systematic, Sequential, and Cumulative Instruction. Explicit instruction is organized in a planned, logical sequence, building from basic to more complex concepts in a way that is systematic, sequential, and cumulative (Spear-Swerling, 2022). This helps students develop a solid foundation before moving on to advanced skills. For example, students should learn how to spell a simple consonant-vowel-consonant (e.g., lip) word pattern before spelling short vowel words with consonant blends (e.g., clip or lisp) Or students learn how to decode vowel patterns in single-syllable words (e.g., ch<u>ai</u>n) before they are taught to apply those patterns when decoding multisyllabic words (e.g., the 'ai' in expl<u>ai</u>n and compl<u>ai</u>ning). Finally, instruction should be cumulative, meaning that each step builds upon the previously learned skills (Cowen, 2016). For instance, in the consonant-vowel-consonant (CVC) example, teachers build knowledge through cumulative practice as they teach short vowels in CVC (e.g., pad) before moving to short vowels in CCVC (e.g., flag), CVCC (e.g., raft), and CCVCC words (e.g., blast).

Modeling and Think Alouds. Vaughn and Fletcher (2021) described modeling and think alouds as an essential component to explicit instruction. This modeling can be an effective way to highlight important features of content being taught. Modeling is showing students a clear and organized way of doing something (Vaughn & Fletcher, 2020). Modeling can help students replicate a skill and then apply it independently (Vaugh & Fletcher, 2020). One way to model for students is for the teacher to share a "think aloud" with students. In this way the teacher helps students create a metal model in problem solving and comprehension. For example, a teacher can model outloud how she/he can go back and reread a section of a passage for understanding or clarification. Another example would be running through the process explicitly of segmenting and blending phonemes together to make a word (Vaughn & Fletcher, 2020).

Fundations® as a Structured Literacy Program

Fundations® is a SL program designed to provide a systematic approach to teaching foundational reading skills, building phonetic language, ensuring students develop essential phonemic awareness, phonics, and comprehension abilities. Fundations® is part of the Wilson Reading System. As seen in Table 2.3, the Fundations® program meets the criteria used to explain the structured literacy approach. According to the second level Fundations® manual (2020), the program includes explicit, visible, and interactive instruction that explains content clearly. All instruction is active and modeled by the teacher. Classroom demonstrations and manipulatives are used with explanation of words and sentence structure. Students blend and segment words by tapping their fingers and actively manipulate sounds using magnetic letters to form words and sentence parts. All learning is active during Fundations® use of active learning utilizes various modalities to maintain student attention. For example, students blend and segment words by tapping their fingers and actively manipulate sounds using magnetic letters to form words and sentence parts.

The program utilizes a sequential and systematic manner to present all skills, and each one is presented in units that are built on previously taught skills. All new information is taught explicitly, and previous skills are cumulatively addressed, spiraling back to relate new concepts with already mastered ones. Fundations® uses a gradual release method that starts with a teacher demonstration and then moves to guided instruction and practice. Students have ample opportunity to apply skills for reinforcement. These opportunities encourage students to apply skills in different ways through varying activities (e.g., decoding and encoding). The program also calls for immediate and positive feedback where errors are corrected immediately or

prompted with guided questions. Fundations® uses a gradual release method that starts with a teacher demonstration and then moves to guided instruction and practice. Students then work together to complete assigned tasks. Finally, students demonstrate concept mastery with brief, frequent checkups and unit assessments.

Table 2.1

Essential Features of Structured Literacy: Features Included in Fundations®

Features	Included in Fundations®		Example
	Yes	No	
Systematic	√		Program has four levels with each level completed before moving to the next
Explicit	√		Instruction is explicit with teacher directly teaching skills
Sequential	√		Follows a direct sequence
Cumulative	√		Each unit is built on previously taught skills with a high frequency of skill presentation
Modeling	√		Teacher provides classroom demonstrations using manipulatives to accompany explanations
Student Engagement	√		All learning involves active participation engaging several senses simultaneously to help maintain focus
Brisk Pace	√		Each component of a daily lesson is short enough to maintain a brisk pace
Clear, Concise Language	√		Scripted language is clear and direct
Think Alouds	√		Teachers model out loud through thinking for students.

The Fundations® program includes all features outlined in an SL approach. In fact, the Virginia Department of Education has listed Fundations® as an approved supplemental program that "Meets Expectations in All Reviewed Components" as part of the Virginia Literacy Act implementation (VDOE, 2024). However, even if a program meets all the features of an SL approach or meets all reviewed components as set by the VDOE curriculum review, programs do not teach students – teachers do. Teachers must possess knowledge about reading, reading development, and evidence-based practices for reading instruction (Hudson et al., 2021).

Teacher Knowledge

In order to utilize the SL approach effectively, it is vital that teachers possess a deep understanding of reading content knowledge in addition to knowledge of current evidence-based instructional practices (Hudson et al., 2021). While teacher knowledge is widely regarded as an element for improving educational outcomes, its relationship with student reading achievement is complex, and research findings on its effects are inconsistent. This complexity highlights the challenges in determining precisely what kinds of knowledge matter most, how they should be applied, and under what conditions they lead to optimal student outcomes. Understanding teacher knowledge remains a crucial avenue for enhancing instruction, as it shapes how teachers design and implement lessons, interact with students, and address their diverse and dynamic learning needs. In this section, a review of literature on teacher knowledge of content, instructional practices, and the nuanced impacts of this knowledge on student reading achievement is present.

Teacher Content Knowledge

Implementing effective reading instruction, especially for foundational word reading-skills, requires knowledge of important language constructs (Binks-Cantrell, 2011; Moats, 2020). In the early 2000s, a number of studies highlighted the gaps in knowledge for teachers of

reading. These studies examined the relationship between teacher knowledge, practice, and student outcomes (e.g., Carlisle et al., 2009; Piasta et al., 2009; Spear-Swerling & Brucker, 2003), all giving evidence that teachers lack fundamental knowledge of key English word structure and language constructs.

Moats (2014) explained that teachers must understand "the complexities of English orthography and the language systems that print represents in order to teach students how to recognize words" (p.77). They must know this, Moats (2014) explained, because teachers need to be able to interpret errors and give corrective feedback, choose a proper approach to meet the needs of the students and understand the sequence of the instruction to be given, and be able to help students understand the syntactic and semantic complexities of the text. Even highly scripted programs cannot make up for lack of teacher knowledge in language and print structure (Piasta et al., 2009). Teachers must draw on their specialized knowledge to meet student's individual needs, correct student errors in the moment, adjust core curriculum, or adjust intensity to meet students' needs (Piasta et al., 2009; Spear-Swerling & Cheesman, 2011). For example, Piasta et al. (2009) observed first-grade teachers providing incorrect examples and teachers not correcting students' mistakes accurately for students during phonics instruction during instruction. Providing well-designed programs curricula does not correct teachers' misunderstandings or lack of knowledge (Hudson et al., 2021); "[programs] cannot substitute for teacher expertise" (Piasta et al., 2009. p. 244).

Not only do teachers need to have a strong grasp of language structure, but they also need to have a deep knowledge of oral language constructs as well. That includes the subcomponents involved in reading development, including phonemic awareness, phonics, morphology, fluency, vocabulary, and language comprehension (Goldfeld et al., 2020; Moats, 2014). According to

Goldfeld et al. (2020), teaching reading requires the understanding that reading acquisition is reliant on oral language proficiency.

Spear-Swerling and Zibulsky (2014) found that teachers (n=102) did not allocate time in their reading blocks for key components of oral language and reading development, such as phonemic awareness and phonics. Additionally, teachers tended to neglect other important elements, such as vocabulary and reading comprehension. Their findings showed that teaching experience, reading coursework, and teacher knowledge were related to the time allocation in instructional planning. Teachers with more knowledge, coursework, and experience, allocated more time for instruction in these evidence-based reading instructional components.

In another study, McCutchen et al. (2002) provided evidence that kindergarten teachers who possessed greater knowledge in phonological awareness dedicated more time to instruction in this crucial area. The study revealed a correlation between teachers' knowledge and students' reading ability, indicating that teachers who have a deep understanding of foundational reading skills are more likely to effectively teach those skills. This finding underscores the critical role of content knowledge in shaping instructional practices. By equipping teachers with robust content knowledge, particularly in areas such as phonological awareness, we can enhance the quality of literacy instruction, ultimately leading to improved student outcomes.

In conclusion, teacher content knowledge is crucial for effective reading instruction in early elementary education. A teacher's deep understanding of language and print structures (e.g., phonemic awareness and phonics) directly impacts their ability to design and implement lessons as well as respond in-the-moment during instruction and practice. By leveraging their content knowledge, teachers lay the foundation for students' reading proficiency, ensuring they develop the essential skills and confidence needed for future academic success.

Teacher Instructional Practice

Although teachers' content knowledge is an essential component to effectively teaching reading, instructional practice knowledge is an equally crucial component. Instructional practice knowledge in reading encompasses a variety of teaching strategies and techniques that are supported in the research as highly effective (Spear-Swerling & Cheesman, 2011). While these research-based instructional practices help students become proficient readers, teachers must also understand which strategies are most effective for different skills and age groups. These practices go beyond those used in teaching; they also involve utilizing validated and reliable assessments to guide instructional decisions during the planning phase, before teaching begins (Moats, 2020). Literature shows us that these instructional practices, include explicit, sequential instruction, modeling, and frequent opportunities for practice with feedback (Archer & Hughes, 2011; Baker, 2014; Spear-Swerling, 2022) which are aligned with SL instructional practices.

According to Moats (2020), "some children learn language concepts and their application very easily in spite of incidental teaching, but others never learn unless they are taught in an organized, systematic, efficient way by a knowledgeable teacher using a well-designed instructional approach" (p.12). Studies done by Piasta et al. (2009) and McCutchen et al. (2002) provide corroborating evidence that highly knowledgeable teachers using explicit reading instruction can maximize student's reading achievement. According to the International Dyslexia Association (IDA), successful literacy instruction consists of explicit, systematic teaching of foundational reading skills such as decoding, spelling, vocabulary, comprehension and writing (IDA, 2019). The IDA (2019) explains SL as "an approach to reading instruction where teachers carefully structure important literacy skills, concepts, and the sequence of instruction, to facilitate children's literacy learning and progress as much as possible" (p. 6).

The reviewed literature underscores the critical role of instructional strategies in enhancing educational outcomes. The diverse approaches discussed—from evidence-based strategies like scaffolding and modeling to explicit, sequential instruction—highlight the importance of adapting instruction to meet the diverse needs of students. By integrating these strategies, teachers can significantly improve student engagement and achievement.

Student Outcomes

Research on the role of teacher knowledge in student reading achievement outcomes is complex and sometimes contradictory. There is evidence that shows teacher knowledge does not significantly affect these outcomes (e.g., Carlisle et al., 2011). In a large sample of Michigan schools, Carlisle et al. (2011) showed that first grade students with high-knowledge teachers performed better in comprehension on end of year reading tests but not in word analysis. In addition, they found no statistical significance in reading achievement based on teacher knowledge in second and third grade (Carlisle et al., 2011). However, studies focused on the impact of teacher knowledge on foundational reading skill development provide more promising outcomes. For example, McCutchen et al. (2002) found in their study of kindergarten and first grade teachers (n=59) that a positive relationship did exist between teacher knowledge and student reading achievement, specifically, in phonological awareness. This contradiction underscores the complexity of teacher knowledge and student outcomes in that different aspects of teacher knowledge can perhaps impact different skills for students at different grade levels.

Hudson et al. (2021) reviewed 20 empirical studies to examine the effects of teacher knowledge on foundational reading skills and student outcomes in reading. Their review provided further evidence that “improving teacher knowledge and providing support for the implementation of new knowledge may lead to improved word-level outcomes” (p. S311).

Similarly, Ehri and Flugman (2018) studied the effects of a year-long mentor program designed to improve teacher effectiveness and knowledge in teaching phonics and spelling. In this study, 29 mentors worked with kindergarten teachers and 69 mentors worked with first, second, and third grade teachers in an urban lower SES school. The results revealed that students' reading and spelling showed large gains in addition to students meeting grade-level expectations in kindergarten and first grade. This provides evidence that student outcomes are impacted by knowledgeable teachers, especially in foundational reading skills like phonics and encoding.

In summary, a deep understanding of the content or subject matter is fundamental for effective teaching. The literature reviewed suggests that teachers with strong foundational reading skill knowledge are better equipped to explain concepts clearly, give correct feedback when necessary, and fix student errors on demand. In addition, teachers' knowledge of instructional practices is crucial for translating content knowledge into effective teaching strategies. Foundational reading skills require direct, systematic instruction, and teachers must understand how to deliver instruction in this way. Programs like Fundations® offer teachers a way to deliver direct, systematic instruction for their students, and if delivered with fidelity, can be highly effective. However, programs do not replace highly knowledgeable teachers. "Teaching and learning cannot be entirely prescribed or scripted" (Piasta et al., 2009. p. 244).

Program Implementation

Measuring the fidelity of implementation (FOI) of the Fundations® program is crucial for accurately assessing its effectiveness. According to O'Donnel (2008), "measuring fidelity of implementation and empirically relating it to outcomes is warranted to ensure internal and external validity" (p. 33). Fidelity of implementation is commonly defined in schools as the degree to which an intervention or program is executed in accordance with its original design

and guidelines (O'Donnel, 2008). Measuring the FOI helps to discern whether observed outcomes are because of the intervention itself or a deviation in its delivery. Keeping in mind the conceptual framework guiding this capstone, this section will review the existing literature on FOI, highlighting key findings on the principles of FOI, the factors that impact FOI, the impact on student outcomes, and common ways of measuring FOI.

The conceptual framework that guides this capstone outlines the key principles derived from two established frameworks: Century et al. (2010) and Caroll et al. (2007). The integration of these two frameworks emphasizes three main components of FOI: adherence, exposure, and participant responsiveness. These components were originally presented in an influential article developed by Dane and Shneider (1998) where the authors reviewed 162 "outcome studies" of primary and secondary prevention programs. Out of 162, only 39 measured for program integrity (i.e., FOI). Five key components emerged from this study (i.e., adherence, exposure, quality of delivery, participant responsiveness, program differentiation). Each of these are heavily referenced throughout the literature, offering a way to frame and measure the fidelity of implementation of the Fundations® program for my study (Century et al, 2010, Dane & Schneider, 1998).

Principles of Fidelity of Implementation

The first relevant principle of FOI to this capstone is *adherence*. Dane and Schneider (1998) defined adherence as "the extent to which specified program components were delivered as prescribed in program manuals" (p. 45). Some years later, Century et al. (2010) updated this definition of adherence to the commonly accepted "extent to which the critical components of an intended program are present when that program is enacted" (p. 207). The literature reviewed indicates that adherence can be thought of as synonymous with fidelity of implementation

(Century et al., 2010; Carroll, 2007; O'Donnel, 2008). Teachers and program content play a critical role in this principle (Lakin & Rambo-Hernandez, 2019). Namely, they determine when and how the program is implemented and how much of the content directed by the program is actually being taught (Lakin & Rambo-Hernandez, 2019).

Exposure is another important component or principle in measuring the FOI. Exposure is a broad concept that encompasses factors such as frequency (how often something occurs), duration (how long it lasts), and coverage (the extent or range that is covered) (Century et al., 2010; Lemire et al., 2023). Coverage is sometimes referred to as the dose (Carroll, 2007; Century et al., 2010; Lemire et al., 2023). It is used to determine whether the program is being implemented "as often and for as long as prescribed" (Carroll, 2007, p. 5). Further research shows "measuring exposure to the program allows evaluators to correlate the magnitude of program effects to the amount of programming students receive" (Lakin & Rambo-Hernandez, 2019, p. 205).

Participant responsiveness is a critical component in fidelity of implementation, serving as the third principle in ensuring that programs are delivered effectively and yield desired outcomes. Participant responsiveness pertains specifically to how actively participants engage with and adapt to a program. It is defined by Dane and Schneider (1998) as "a measure of participant responsiveness to program sessions, which may include indicators such as levels of participation and enthusiasm" (p. 45). This principle is vital because the success of any program is not solely dependent on the fidelity with which practitioners deliver it but also on how well participants respond to and interact with the program (Century et al., 2010). If students view the program as irrelevant, their lack of engagement may be a cause for the program's lack of success

(Carroll et al., 2007). According to Carroll et al. (2007), program effectiveness depends on its acceptability by those who are receiving it.

Dane and Schneider (1998) defined *quality of delivery* as a "measure of qualitative aspects of program delivery that are not directly related to the implementation of prescribed content" (p. 45). This refers to implementer enthusiasm, preparedness (Dane & Schneider, 1998), and competence (Sutherland et al., 2013). Quality of delivery also refers to whether the teacher knows how and when to deliver the program for maximum effectiveness (Sutherland et al., 2013). If the program is delivered poorly or in a disjointed way it may affect how implementation is realized (Carroll et al., 2007; Sutherland et al., 2013). Literature reveals that training, suitable materials, and adequate support convey to the instructor the importance of effort in enhancing the quality of program delivery (Carroll, 2007). Furthermore, incorporating strategies for improvement, progress monitoring, and feedback highlights the significance of delivery quality and its possible influence on the consistency of implementation (Carroll, 2007).

According to Dane and Schneider (1998), the FOI for a program is enhanced through the use of training manuals, the training of implementers, and supervision of implementation. The training and supervision of implementers is critical to the integrity of implementation of any program and can affect FOI (Dane & Schneider, 1998). Training will help teachers feel more comfortable and prepared as well as help them see the value of program implementation for their students (Dane & Schneider, 1998). Teachers must understand the program and its components to implement the program the way it was intended (Lakin & Rambo-Henrnandez, 2019). Stein et al. (2008) found in a randomized control study of almost 3000 students and 259 teachers that the level of support given to the teachers implementing a new program was important to early reading student gains. Their research suggests that much of the student reading gains were

influenced by the fidelity with which teachers implemented the program (Stein et al. 2008). In their study, the teachers who received a day-long workshop, two booster sessions, a manual, and additional materials (e.g., all required worksheets, student rewards, folders, and score sheets) to support program implementation not only had the highest levels of fidelity but also saw the largest gains in student outcomes (Stein et al., 2008).

Moderators That Impact Fidelity of Implementation

Ensuring high fidelity is critical for achieving desired outcomes and accurately assessing the effectiveness of a program. However, a variety of factors can influence how closely a program is implemented to its original design. These factors are referred to as *moderators* within the conceptual framework that guides this capstone project. Understanding the moderators is essential to optimizing program implementation and improving student outcomes as an important focus in implementation science is to understand contextual issues affecting program delivery (Sutherland et al., 2013). This section reviews key moderators, both barriers and facilitators, that may impact implementation of the Fundations® program.

Program complexity is a moderator that can be a barrier to FOI. Caroll et al. (2007) stated that achieving high fidelity is easier when the intervention is less complex because the more complex the program the greater the chance for variation in delivery. In this way, one or more parts of the program may not be delivered the way it was intended to be delivered. Dusenbury et al. (2003) also showed that programs that have more elements require specific skills and require coordination of many people are less likely to be perceived as effective. Complex programs also often require extensive training and support to achieve high fidelity by teachers (Carroll, 2007). Comparatively, programs that have explicit direction and clear instruction with easy-to-use

manuals are perceived as more effective (Dusenbury et al., 2003). It makes sense that the more complex a program is, the harder it is to deliver exactly in the way it was intended.

Another moderator is facilitation strategies or the supports surrounding program implementation. Strategies that support implementation, such as monitoring, feedback, and training, increase the potential level of fidelity (Carroll at al., 2007). These facilitation strategies also include the level of support given by the administration such as leadership, community involvement, and attention to staff morale or school climate (Century, 2010; Stein et al., 2008). These characteristics influence the willingness and ability of teachers to implement educational programs (Stein et al., 2008) and are more critical when program implementation is for an entire school (O'Donnell, 2008). Whole school implementation is more complex because there are many moving parts. According to O'Donnell (2008), even if there is a general fidelity of a program throughout the school, individual teachers may adapt to meet their routines and schedules.

Teacher knowledge can also be considered a moderator to FOI since the teacher's knowledge can directly influence the degree to which the program is implemented. It is important that teachers have competency so they can adapt specific requirements to meet the unique needs of the class and individual students (Stein et al., 2008). Johnson and McMaster (2013) stated that FOI is influenced by the implementer's skills, motivation, and perception of need and the interaction of these variables. While the importance of teacher knowledge has been well established previously in this chapter, interestingly, Stein et al. (2008) asserted that more experienced teachers are more likely to resist implementation of a new program. This resistance may be because of established routines and strategies that they perceive are effective. In contrast,

Stein et al. (2008) said that new teachers with less knowledge and experience have a greater openness to try new programs because they are searching for effective instructional strategies.

Impact on Student Outcomes

The ultimate goal of any instruction is improving student outcomes. FOI plays a crucial role in determining whether programs achieve their desired effects. Therefore, understanding how fidelity impacts student outcomes is essential for understanding the role of FOI. Stein et al. (2008) provide evidence to suggest that much of the students' reading gains in their two-year experimental study were brought about by the fidelity with which the teachers implemented the new program. O'Donnel (2008), in her literature review on FOI and its relationship to outcomes in the public health field, found that all five studies reviewed showed significantly higher outcomes when the program was implemented with greater fidelity. Johnson and McMaster (2013) stated that studies monitoring fidelity obtained higher effect sizes and well-implemented programs achieved a higher effect size than those implemented poorly. In reviewing the literature on student outcomes and FOI, it is clear that the extent to which programs are implemented as intended has an impact on student outcomes**.**

Measuring Fidelity of Implementation

Accurate measurement of fidelity of implementation is essential for many reasons. First, it helps in assessing whether outcomes can be linked to the program itself rather than variations in its delivery. It also provides information into the factors that may impact the success or failure of the program. Finally, it guides adjustments to enhance effectiveness if necessary. Literature reveals that researchers use a variety of methods to measure FOI. O'Donnell (2008) reviewed 23 studies to examine how fidelity of implementation to K–12 curriculum interventions and programs have been measured and how these measures relate to outcomes. Only five of these

studies met the requirements for their review. These five studies measured FOI to measure the relationship between FOI to K–12 core curriculum and outcomes, using a variety of measures such as surveys, questionnaires, interviews, and observations. Century et al. (2010) also described methods used to measure FOI for science and mathematics programs, such as teacher questionnaires, instructional logs, classroom observation protocols, and teacher interview protocols (Century et al., 2010).

Caroll et al. (2007) stated that any measurement of FOI should account for adherence as well as potential moderators. They write that most FOI research focuses on adherence alone and that research usually does not report high fidelity. They argue that including the moderators in measuring FOI provides a better way to understand and accurately explain low or inadequate implementation and, therefore, control for the possible barriers to implementation and achieve higher fidelity (Carroll et al., 2007). In short, the literature demonstrates various methods can be useful when assessing fidelity, including direct observation, self-report measures, and adherence checklists. The choice of method often depends on the specific context and goals of the implementation.

Chapter Summary

In conclusion, examining reading development through the lens of the SL approach underscores the critical role of this approach in fostering proficient reading skills among students. The reviewed literature indicates that systematic, explicit instruction in SL effectively supports the processes required for developing proficient reading skills. The effectiveness of the SL approach requires teacher knowledge, including both content and instruction knowledge. Moreover, the impact of this approach can be linked to fidelity of implementation of a SL-aligned program. Importantly, the literature reviewed in this chapter outlines a variety of ways to

measure FOI, including classroom observations, teacher interviews, and questionnaires. Each of these tools of FOI measurement factor in essential elements of implementation with close attention to moderators of implementation. In the end, FOI by a knowledgeable teacher when implementing a SL program targeting foundational skills in the early grades can positively impact student outcomes, leading to future reading success.

Chapter 3: Methods

This chapter begins by revising the purpose of the study and outlining the research questions. Following this, the chapter explains how a qualitative case study approach aligns with the research questions and provides a rich description of the research context, participants, data sources. Finally, the chapter ends by detailing the data, analysis procedures used alongside all ethical considerations relevant to the study.

Purpose and Research Questions

As discussed in Chapter 1, foundational skills such as phonemic awareness, decoding, and word recognition are essential for reading success (Binks-Cantrell, 2022; Foorman, 2016; Spear-Swerling, 2004). A lack of proficiency in any of these areas can lead to frustration and reading difficulties (Gough & Tunmer, 1986). This study used a multiple case study design to examine the teaching practices of second-grade teachers at Rocky Top School (RTS) through the lens of a foundational skills-focused structured literacy (SL) program – Fundations®. This approach allowed the study to concentrate specifically on this crucial area of early reading instruction, namely foundational skills instruction. Given that RTS's second-grade scores on foundational skills tasks (e.g., word recognition and spelling) had declined compared to the first-grade scores, this capstone focuses on the second-grade teachers' instruction in this area. The research questions guiding this inquiry were:

1. To what extent were second-grade teachers at RTS using the structured literacy program, Fundations®, with fidelity?
2. What were second-grade teachers' perceptions of the facilitators influencing the implementation fidelity of the Fundations program at RTS?

3. What were second-grade teachers' perceptions of the barriers influencing the implementation fidelity of the Fundations program at RTS?

Methodology

To address these research questions, I employed qualitative case study methods and action research to assess the level of implementation fidelity provided in the Fundations® program by second-grade teachers at RTS. The following sections, I detailed the study's design features and contextual elements that guided the research procedures and could influence the findings.

Qualitative Case Study Research Strategy

I selected a qualitative case study design to explore each of the experiences of three second-grade teachers. This approach allowed for an in-depth investigation of each case, using multiple sources of data (Creswell & Poth, 2018). I chose this method because it aligned with a constructivist paradigm, which aimed to understand the research subjects within their real-life contexts (Yin, 2017). Epistemologically, a case study was well-suited for this inquiry for two main reasons: 1) as a literacy coach at RTS, I was positioned to closely engage with participants and minimize the distance between researcher and subjects, and 2) the study took place in the participants' actual work environment (Creswell & Poth, 2018). Additionally, a case study was appropriate in terms of axiology because it highlighted the study's value-laden aspects and ensured that its significance was communicated to the participants (Creswell & Poth, 2018).

This inquiry also incorporated action research, which Efron and Ravid (2020) defined as research conducted by educators within their own settings to enhance student outcomes and advance their practice. As a member of the school staff, I was deeply involved and familiar with the context, which influenced my research goals of improving teaching practices, addressing

existing problems in our school, supporting professional development, and gaining a better understanding of students' needs (Efron & Ravid, 2020). Consequently, I was highly invested in students' reading outcomes. The insights gained from this inquiry informed recommendations aimed at improving teachers' foundational reading instruction.

Methods

This study was conducted in the winter of 2025 in the context of RTS, a public elementary school in an urban setting in the mid-Atlantic region. Data were collected and analyzed thematically using the fidelity of implementation conceptual framework, which considered the factors of exposure, adherence to program protocols, participant responsiveness, and quality of delivery, as well as possible moderators to the implementation such as complexity of the program, the strategies used by facilitators, and teachers' knowledge of the curriculum.

Researcher Access

As the literacy coach at RTS, I worked closely with the school administration to support teachers in their reading instruction and was well-acquainted with the reading goals of both the school and the district. Since my arrival at RTS, improving student reading proficiency had been an ongoing challenge. For example, in the fall of 2023, 61% of second grade students failed to meet the Phonological Awareness and Literacy Screening (PALS) benchmark, and by spring of 2024, this percentage increased to 67%. When the district adopted the Fundations® program, there was hope that its emphasis on foundational skills would boost students' statewide reading benchmark scores. However, the data were inconsistent across grade levels. For example, first graders not meeting the PALS benchmark fell from 40% in the fall of 2022 to 5% in spring 2023. However, in second grade in the fall of 2022, 63% of second-grade students failed to meet the PALS benchmark with 65% still failing the meet the benchmark by spring 2023. This

inconsistency highlighted the need to better understand how the teachers in second grade were implementing the SL program, Fundations®. Given my role at RTS, discussing this project and its relevance was a frequent topic during our weekly Professional Learning Community (PLC) meetings. This project aimed to address the identified problem and explore program implementation.

Participants and Sampling

I employed a two-tiered sampling framework for selecting participants in this case study, using both purposeful and convenience sampling methods. I intentionally selected the full population (3) of second-grade teachers who, due to their firsthand experience and familiarity with the program, were uniquely positioned to provide valuable insights into the problem of practice and the phenomena under study (Creswell & Poth, 2018). I chose the second-grade team because the data showed this grade level to be the most challenged in terms of meeting statewide reading benchmarks. Additionally, the convenience sampling method was applicable due to my role as a literacy coach, which gave me easy access to these teachers since we all worked at the same school. We also met weekly in our scheduled PLC meetings to discuss reading instruction, analyze data, and explore ways to enhance teaching and student engagement. There were three female participants. The administration team was equally invested in exploring this problem of practice so any issues could be addressed.

Table 3.1

Participant Information

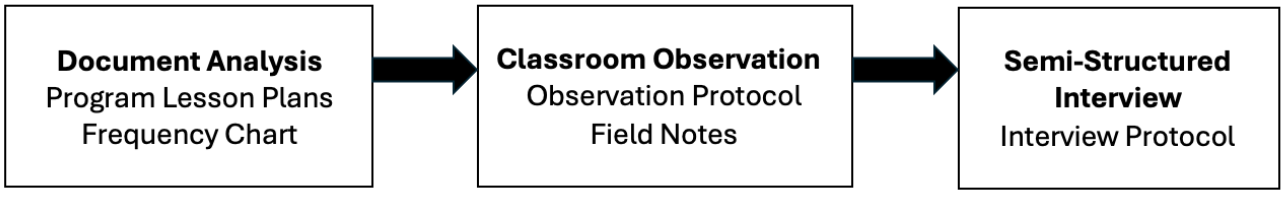
Participant	Degree	Years Teaching Experience	Reading Instruction Experience	SL Experience
Hannah	NA	1.5	None	None
Jane	BA Education	3	4th grade (2 years)	Fundations®
Fiona	BA Music	2	3rd grade (1 year)	Fundations®

Data Sources and Collection

In order to create an in-depth accurate picture of my case study and to promote data credibility (Creswell & Poth, 2018), I collected multiple forms of data. This approach allowed the case or phenomenon to be viewed and explored through multiple perspectives (Baxter & Jack, 2008). Data sources included document analysis, classroom observations, and semi-structured interviews with each working to triangulate the data and enhance its quality. Each provided insight into the implementation of Fundations® among second-grade teachers at RTS. By examining how closely teachers adhered to Fundations® prescribed instructional practices, the research aimed to assess the consistency and quality of program delivery.

Figure 3.1

Data Collection Sequence



Document Analysis

The document analysis component of this capstone focused on evaluating the fidelity of implementation of the Fundations® program by examining key instructional materials and related documentation. This process included 1) a detailed review of the Fundations® program manual, which provided scripted lesson plans, and 2) an analysis of a frequency chart documenting the duration, frequency, and any modifications to lessons of the program delivery in second-grade classrooms.

The scripted lesson plans outlined in the Fundations® program manual was systematically reviewed to identify prescribed instructional components, activities, and pacing guidelines. This analysis established a baseline for the program's intended structure and delivery. Specific focus was placed on identifying the core instructional elements, including the explicit teaching of phonics patterns, spelling rules, and multisensory activities. The review also served as a reference for evaluating adherence, ensuring that observed instructional practices aligned with the program's design. The document analysis served two primary purposes:

- To establish benchmarks for the intended implementation of the Fundations® as defined by the program manual.
- To assess whether the observed instructional practices aligned with these benchmarks in term of adherence, exposure, and pacing.

To complement the review of scripted lesson plans, each teacher filled out a daily frequency chart which was utilized to document and analyze the duration and frequency of Fundations® program delivery over a two-week period. The chart also offered space for teachers to make notes about any modifications of the scripted lessons. This two-week period took place

before interviews to allow for any follow-up or clarifying questions during interviews. This log recorded:

- Begin and end times of each instructional session to determine the amount of time allocated to the program.
- Frequency of sessions to ensure that the program was delivered consistently according to its prescribed schedule.
- Any modifications to the lessons that deviated from the manual scripted lesson plans.
- Descriptions of and reasons for deviations.

Observations

To address the research questions and identify moderators influencing fidelity of implementation, data were also collected through one classroom observation of Fundations® lessons using the observation protocol in each participating teacher's classroom. The observation protocol was adapted from the Fundations® implementation manual, outlining key components of effective instruction (see Appendix B). The protocol was field-tested prior to the observation to ensure it was both effective and user-friendly for conducting observations. Qualitative data were used to assess adherence, exposure, participant responsiveness, and quality of delivery to Fundations® instruction. Each participant scheduled an observation based on their reading block and convenience for having an observer present. I observed the whole-group Fundations® lesson conducted during the observation period. Each observation took approximately 45 minutes. All observations took place in the week before the interviews. Additionally, reflective and descriptive field notes (Creswell, 2007) were utilized to identify factors that possibly facilitated

or hindered implementation fidelity. Following each observation, a teacher interview was conducted.

Interviews

To explore factors that teachers perceived as facilitating or hindering fidelity of implementation of Fundations® instruction as well as evaluating adherence, exposure, participant responsiveness, and quality of delivery, semi-structured interviews were conducted with participating teachers after the observations. This approach provided detailed, personalized insights into their perspectives on factors influencing Fidelity of Implementation (FOI; Jacob & Furgerson, 2012). Semi-structured interviews were ideal for this project because they allowed for adaptation and refinement of questions as needed (Creswell, 2007). I developed an interview protocol aligned with the research questions and conceptual framework (see Appendix C) and selected a quiet, distraction-free location for each interview (Creswell, 2007). The interview protocol was field-tested prior to the interviews with a peer in addition to a teacher from a different grade level to evaluate the clarity, conciseness, and understandability of the questions. The pilot testing also helped to ensure the interview could be completed within the appropriate time frame.

Each interview was approximately 30-35 minutes long and was conducted the week after the observation. The protocol included open-ended questions exploring teachers' adherence to the program, student engagement, and moderating factors in implementation, allowing a comprehensive look at fidelity and potential areas for support. These questions helped gather comprehensive information from the interviewees (Jacob & Furgerson, 2012). To ensure the accuracy of data collection, I used the Plaud Note Voice Recorder application to record each interview, which also generated transcriptions for analysis. To further enhance reliability, I

cross-checked the transcriptions with the audio recordings to ensure they accurately captured participants' responses. In addition to the voice recording, I took detailed notes during the interviews. After each interview, I used reflective memos to record my observations and interpretations (Creswell & Poth, 2018).

Table 3.2

Interview Dates and Durations

Participant Pseudonym	Interview Date	Duration
Hannah	2/17/25	30 min
Jane	2/10/25	30 min
Fiona	2/13/25	30 min

Data Analysis

I developed a data analysis plan that included a detailed case description, triangulation of multiple data sources, creation of a priori codes for theme identification, categorization of themes, and development of generalizations and recommendations (Creswell, 2007). Qualitative data were descriptively analyzed to assess FOI of Fundations® instruction. Following Creswell (2007) data analysis spiral, I proceeded through five analytic steps:

1. Data collection where I collected diverse data from all planned sources: document analysis, observation, and teacher interviews.
2. Data management and organization where I developed initial coding frameworks, grouping similar themes or keywords (e.g., hindrances, facilitators); and collected data

including transcriptions and voice recordings and securely stored the data in a password-protected digital file.

3. Memo writing where I documented insights, reflections, and emerging themes. Immediately after each observation and interview, I wrote memos to capture initial impressions and notable patterns.
4. Data description, classification, and interpretation where I transcribed interviews and organized observation notes into meaningful categories. I used a coding process to group these into broader themes to develop emergent codes that covered a range of the phenomena (Bazeley, 2013) (see Appendix E for Preliminary A Priori Codes). A priori codes categories included adherence, exposure, participant responsiveness, perceptions of hindrances and facilitators, fidelity to instruction, facilitation strategies, and teacher needs. I categorized themes further once they became evident (Bazeley, 2013). Data classification focused on categorizing information related to teachers' perception of adherence, student engagement, and factors influencing implementation fidelity. I interpreted the data by connecting these themes to the conceptual framework and research questions.
5. Data representation and visualization where I employed narrative summaries paired with visual aids to highlight prominent themes and their interconnections. These visual representations enhanced clarity, making complex data patterns accessible and facilitating the communication of findings to diverse audiences.

Codebook

To guide the data analysis process, I developed a comprehensive codebook grounded in my conceptual framework and research questions. I began by creating a set of a priori codes that aligned with the constructs of FOI. These initial codes served as the foundation for categorizing and organizing the qualitative data collected through interviews, classroom observations, document analysis, and field notes.

To ensure the credibility and consistency of the coding process, I enlisted a critical peer to review the a priori codes, confirming alignment between the research questions, data sources, and the intended findings. This peer review process provided an additional layer of validation to the initial coding structure.

As I engaged in deeper analysis of the data, the codebook evolved from its initial descriptive phase to a more analytical framework. Codes were refined and expanded to better capture emerging patterns and insights observed in the data. Through iterative review of documents, interview transcripts, observation protocols, and field notes, I identified new codes and adjusted existing ones to reflect the nuanced understanding of the data.

The codebook was organized into three primary sections, each corresponding to a distinct data source:

1. Interview Coded Data
2. Observation Coded Data
3. Frequency Chart Coded Data

Each section was systematically documented and managed using an Excel worksheet, allowing for clear organization and easy cross-referencing of codes across data sources. I conducted comparative analysis to identify commonalities and patterns that emerged between the

three data sets. This cross-source triangulation strengthened the reliability of the coding process and ensured that themes were consistently supported by multiple data points.

Ultimately, this process led to the development of a final, comprehensive codebook, which included categories, specific codes, and their corresponding definitions. (see Appendix E) The themes derived from this analytical process became evident through the identification of shared patterns and trends across the data sources. These themes directly informed the study's key findings, providing a clear and structured path from raw data to final analysis and interpretation.

Trustworthiness and Ethical Considerations

It was important to ensure that ethical standards were maintained throughout the study. To do this, I followed guidelines from the University of Virginia and the Institutional Review Board. Because I worked directly with the participants, I carefully recruited them and made it clear that their participation was entirely voluntary. I was thorough in explaining the purpose of the study, obtaining informed consent, and clarifying their right to withdraw from the study at any time during the process. I clearly explained that, although the study posed minimal risk, anonymity could not be guaranteed. However, I took careful measures to maintain confidentiality. Participants were also informed that my role as a literacy coach was not evaluative, ensuring that any information gathered during data collection would have no impact on their current teaching position at RTS. Each participant was assigned a pseudonym, which was used to label documents, observation protocols, interview transcripts, and in the final presentation of the study. To further protect confidentiality, all collected data including transcriptions and voice recordings were securely stored in a password-protected digital file, accessible only to me. Physical documents, if any, were locked in a secure filing cabinet. Data

was retained for the duration of the study and destroyed one year after the project's completion, ensuring compliance with institutional guidelines.

Chapter Summary

In Chapter 3, I presented a detailed outline of the methods and procedures used in this study. Beginning with a restatement of the study's purpose and research questions, I explained how my qualitative case study design, paired with action research, provided a strong foundation for exploring the FOI of the Fundations® program in second-grade classrooms at RTS. This chapter included a description of the research setting, participant selection, and the data sources used—document analysis, classroom observations, and semi-structured interviews.

The research strategy was guided by the FOI framework from Century et al. (2010) and Carroll et al. (2007), with attention to the factors of adherence, exposure, participant responsiveness, quality of delivery, and moderators like program complexity, facilitator strategies, and teacher knowledge. The data analysis section detailed the coding process, from a priori coding based on research questions to iterative coding for theme development supported by reflective notes and memos. Trustworthiness of the data was strengthened through triangulation and consultations with a critical peer reviewer. In ethical considerations, I addressed participant confidentiality, informed consent, and my positionality as a literacy coach at RTS. Through these methods, this study aimed to contribute meaningful insights into the factors teachers perceived as supporting or hindering implementation of Fundations® at RTS, informing recommendations for professional development and improved implementation.

Chapter 4: Findings

This capstone study was designed to examine the fidelity of implementation of the Fundations® program in second-grade classrooms at RTS Elementary. Specifically, the research was guided by the following questions:

1. To what extent are second-grade teachers at RTS implementing the structured literacy program, Fundations®, with fidelity?
2. What are second-grade teachers' perceptions of the factors that facilitate the faithful implementation of the Fundations program at RTS?
3. What are second-grade teachers' perceptions of the barriers affecting the fidelity of Fundations implementation at RTS?

To explore these questions, guided by the conceptual framework, I conducted a qualitative case study over a three-week period. Data collection began with a trial observation in a first-grade classroom during the first week to assess the usability of the observation protocol. At the end of this week, I distributed the frequency chart to all participants. Over the next two weeks, I observed each participant once and then followed up each observation with a semi-structured interview. Table 4.1 summarizes the data process and timeline.

Table 4.1

Data Collection Process and Timeline

Collection Sequence	Date	Context	Data Collected
1. Frequency Chart Distributed	Feb. 3, 2025	Given to each participant	N/A

2.	Observation: Jane	Feb. 10, 2025	Observation by researcher: Jane's classroom	• Observation Protocol • Field Notes • Reflective Memos
3.	Interview: Jane	Feb 10, 2025	Interview: Jane's classroom	• Interview Transcription • Reflective Memos
4.	Observation Fiona	Feb 13, 2025	Observation by researcher: Fiona's classroom	• Observation Protocol • Field Notes • Reflective Memos
5.	Interview Fiona	Feb. 14, 2025	Interview: Fiona's classroom	• Interview Transcription • Reflective Memos
6.	Frequency Chart Collection	Feb. 14, 2025	Collected from each participant	• Dates/times of Fundations® lessons
7.	Observation Hannah	Feb. 17, 2025	Observation by researcher: Hannah's classroom	• Observation Protocol • Field Notes • Reflective Memos
8.	Interview Hannah	Feb. 17, 2025	Interview: Hannah's room	• Interview Transcription • Reflective Memos

During observations, I used a structured protocol to make note of aspects of adherence to program guidelines, instructional quality, student engagement (participant responsiveness), overall program exposure, and any moderators that are barriers or facilitators to fidelity of implementation (FOI). The semi-structured interviews, which were audio-recorded and supplemented with notes, provided deeper insight into teachers' perceptions of their instructional delivery, program adherence, student engagement, and any moderators that were barriers or facilitators to FOI. Additionally, the Frequency Chart tracked the frequency and duration of lessons over the two-week observation/interview period. Data analysis from observations,

interviews, and document reviews (Frequency Chart) helped identify patterns and key themes, leading to the five main findings presented in this chapter. These findings informed the recommendations outlined in Chapter 5.

I will address the research questions by explaining and illustrating the key themes that led to the five key findings:

- Finding 1: Challenges in Quality of Delivery
    - Theme 1: Navigating the lesson was challenging for teachers
        - All teachers indicated that they could know the scripts and lesson progression better.
        - Some common instructional routines were not followed (e.g. tapping sounds when decoding or spelling).
        - Pacing was not aligned with lesson suggestions across classrooms, overall, the pacing was too slow.
    - Theme 2: Incorporating lesson materials was challenging for teachers
        - Organization of materials was difficult for teachers.
        - Teachers did not use suggested manipulatives other than white boards.
- Finding 2: Challenges in Adherence
    - Theme 1: The delivery of the lessons was inconsistent across classrooms.
        - Teachers often missed days of instruction.
        - Across classrooms lesson duration was inconsistent.
        - Lessons were often shortened and, therefore, key components were left out.
- Finding 3: Challenges in Responsiveness
    - Theme 1: Student engagement appeared to be limited.

        - While not a focus of this study, students overall, were not consistently participating in the lessons.
    - Theme 2: Teacher engagement appeared to be limited.
        - Teacher delivery seemed to lack enthusiasm, which might contribute to students' disengagement.
        - Teacher lack of enthusiasm contributes to students' disengagement
- Finding 4: Facilitators to Support Program Implementation
    - Theme 1: Teachers appeared to be confident in their knowledge
        - Teacher's use of technology was helpful in lesson delivery
        - Teachers gave immediate and corrective feedback using program guidance.
        - Teachers felt confident about answering students' questions and concerns.
- Finding 5: Significant barriers to Program Implementation
    - Theme 1: Classroom distractions were commonplace.
        - Student behavior was frequently noted as an obstacle.
        - Interruptions were also frequent such as students leaving classroom, phone calls during instruction, and people entering the classroom.
    - Theme 2: Instructional days were limited due to outside factors
        - During the three-week window of data collection, RTS has 2 "snow days" days.
        - Also, during data collection, RTS teachers had to participate in division-wide testing.

Finding 1: Challenges in Quality of Delivery

Through the analysis of observation and interview data, clear patterns and a central theme emerged, indirectly addressing Research Question 1: To what extent are teachers implementing Fundations® with fidelity? And Research Question 3: What are teachers' perceptions of the

barriers influencing FOI? Through data analysis it became clear that the second-grade teachers at RTS Elementary faced significant challenges in navigating the structured lesson progression of the Fundations® program, which can impact the overall quality of instruction.

Theme 1: Navigating the Structured Lesson

Fundations® lesson plans are scripted to help teachers know exactly what to say and when to say it which potentially maximizes instructional time. The lesson plans also map out key instructional routines and pacing guidelines. Data analysis showed inconsistent adherence to key routines, such as phoneme isolation strategies like tapping out sounds. Additionally, pacing across classrooms was generally slower than recommended, contributing to reduced student engagement and a lack of instructional rhythm.

Lesson Scripts. During the interviews, teachers expressed the perception that they needed a deeper understanding of lesson scripts and program expectations. During the interview with Jane she said,

> "I try not to look at the book a lot, because I don't want to stand there and be reading the book while I'm trying to teach a lesson, so sometimes I don't remember everything that was in it, and I have to go back and pause for a moment, so that lends itself to a slower pace. I still definitely have room for improvement, but it's better." (Feb. 10, 2025)

When Hannah was asked what she thinks needs to change about her instruction she replied,

> "Probably knowing the material more, but I know that's on me. I feel like I don't know it (the material) well enough to teach it effectively, the way it's supposed to be taught." (Feb. 17, 2025)

In addition, the data collected on the observation protocol showed that the lack of understanding in this area often resulted in a disrupted lesson flow. Frequent pauses to reread instructional

materials further contributed to delays. For example, during Jane's classroom observation, Jane stopped teaching at the board to walk over and check the book located across the room on the podium. The observation protocol also revealed that extended wait times for student responses contributed to disrupted lesson flow. Reflective memos noted that when the teacher waited for a student to respond for an extended period the other children began to talk amongst themselves. The teacher then had to regain attention when she and the student were ready to move on.

Instructional Routines. Common instructional routines were not always followed. One of the key strategies in the Fundations® program for keeping students engaged and supporting their ability to decode and encode words is phoneme isolation. The program instructs students to use their fingers and thumb to tap out each sound they hear in a word. However, observation and interview data revealed that this key instructional strategy was missing in all three classrooms. For example, in Fiona and Jane's classroom, students were asked to spell words on their whiteboards as the teacher called them out. However, no student used the tapping method or any other phoneme strategy while spelling. Additionally, the reflective memos noted that the teacher neither modeled nor required the use of this strategy. Similarly, in Hannah's classroom, students were not required to spell or write any words. While she was teaching syllable division, she did not have students break down each syllable or use the tapping method to assist with spelling. These findings suggest a significant gap in implementing this fundamental component of the Fundations® program.

Pacing. The interview responses about pacing revealed that the teacher's perceive their pacing of instruction to be moderate; could be better but not horrible. However, the observation protocol and field notes across classrooms revealed that the pace of instruction was not aligned with lesson suggestions. The disrupted lesson flow and frequent pauses appeared to contribute to

lack of rhythm in instruction and pace misalignment. Data analysis revealed that overall, the pacing seemed to be too slow, which became evident in lack of student engagement. Moreover, reflective memos revealed that in all three classrooms teachers did not teach all the components of the program's lesson plan. Because the pacing was too slow, they could not get to all the components during the allotted time.

Theme 2: Incorporating Lesson Materials

Fundations® lessons include materials that support evidence-aligned practices such as manipulatives to support students while decoding and spelling words to apply their phonics skills. While these materials are important instructional materials, teachers reported that organizing and using materials were sometimes challenging.

Organization. Classroom observation data revealed that organization of materials was a significant challenge for teachers. Not being able to quickly access materials not only distracted students but also disrupted the pacing of lessons. During Jane's lesson the researcher observed that pacing time was lost when students had to look for their Student Journals in their desk. Many students struggled to locate their journals, searching through their desks while others waited, leading to disruptions in the classroom. In Fiona's classroom, the teacher had a student pass out the white boards and the students began arguing over which white board they would get. When the teacher handed out the markers and erasers the students started throwing the marker tops at each other and fighting over the erasers. This took approximately 5 minutes of instructional time.

Manipulatives. Another notable challenge was the limited use of manipulatives, a key component of Fundations® lessons. During Jane's lesson, the observation field notes showed that pacing time was lost when students had to look for their student journals in their desk. Many

students struggled to locate their journals, searching through their desks while others waited and leading to disruptions in the classroom. Two out of three classes were only using the whiteboards. In the third classroom (Hannah's room), students did not use any materials beyond a worksheet that the teacher handed out at the end of the lesson. This went smoothly but did not adhere to the manual lesson plan that called for students to work in their journals.

Summary of Finding 1

Analysis of observation and interview data revealed significant challenges in the quality of instructional delivery in the Fundations® program at RTS Elementary. Teachers expressed a need for a deeper understanding of lesson scripts and program expectations, which often led to slow pacing and disrupted lesson flow. Frequent pauses to reread instructional materials further contributed to delays, causing student disengagement. Teachers acknowledged these struggles, recognizing that a stronger grasp of the material would improve their effectiveness in delivering lessons. Pacing of instruction emerged as a major concern, with observation data indicating that lessons were too slow, leading to student disengagement and behavioral issues. Extended wait times for student responses and a lack of differentiation left more advanced learners unchallenged. Additionally, the limited use of manipulatives, a key component of Fundations® lessons, further impacted student engagement. Instead of incorporating hands-on tools like magnetic tiles, students primarily used whiteboards or worksheets, diminishing opportunities for interactive learning. Teachers found manipulatives difficult to manage, often viewing them as distractions rather than valuable instructional tools.

Finding 2: Challenges with Adherence

Adherence to the Fundations® program guidelines was inconsistent across all three classrooms, leading to variability in lesson delivery. The Fundations® program manual states that the program should be taught five days a week for 30 minutes each day. This finding addresses Research Question 1: To what extent are the teachers implementing Fundations® with fidelity?

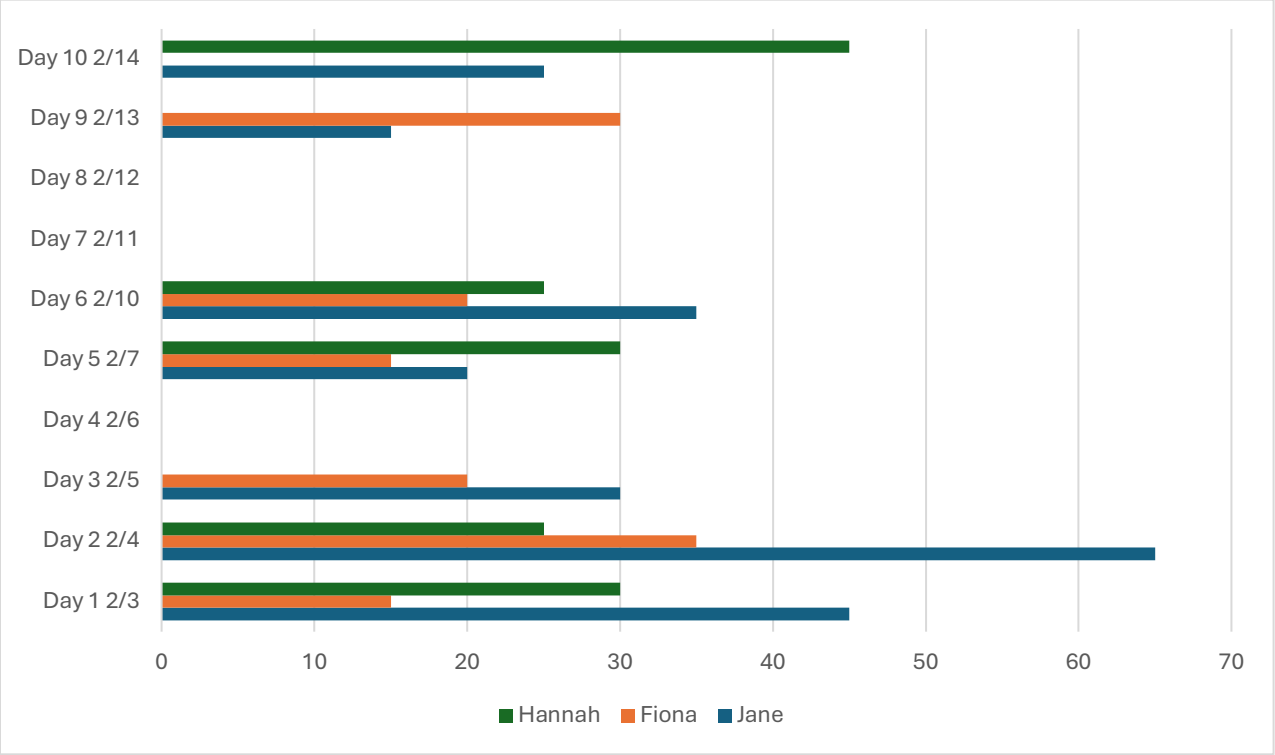
Theme 1: Inconsistent Delivery

The Fundations® program specifically states the expected frequency and duration of each lesson. According to the Level 2 Foundation's manual, lessons should be taught 5 days a week for 30-35 minutes. Data analysis revealed that this was a particular challenge for the second-grade teachers.

Missed Days: Analysis of the frequency chart revealed that teachers often missed days of instruction, disrupting the continuity of the program and FOI. It is important to note that the frequency chart is limited given that the teachers recorded over a ten-day period but only seven of those days were actual instructional days due to snow and testing. During interviews, teachers reported they consistently implemented lessons, suggesting they averaged four days out of a five-day week. However, a review of teachers' individual frequency charts for the ten-day observation period indicated less consistency. Figure 4.1 details each day across the ten days, day 7 and 8 were non-instructional days due to inclement weather and day 4 was non-instructional day due to division-wide testing. Notice none of the three teachers recorded a daily Fundations® lesson, and there was a variability across the teachers with Jane recording seven, Fiona recording six, and Hannah recording five.

Figure 4.1

Frequency Chart Graph



Duration. Additionally, analysis of the frequency chart showed that the duration of lessons varied significantly (also shown in Figure 4.1). The Fundations® manual calls for 30-minute lessons five days a week and includes three to four components daily. The observation protocol and interview data showed that lessons were shortened because of schedule demands. Figure 4.1 illustrates the variation of duration within and across the teachers. While Jane delivered seven lessons over the two-week period, lessons ranged from 20 to 65 minutes. Fiona's lessons ranged from 15 to 35 minutes, and Hannah's ranged from 25 to 45 minutes. Thinking about total instructional time, Fundations® suggests daily 30-minute lessons for a total of 5 hours of instruction over two weeks. RTS teachers' total time over two weeks ranged from 3.9 hours (Jane) to 2.6 hours (Hannah).

Omitted Components. Shortened lessons resulted in teachers omitting key components of the lessons. In all three interviews, teachers said that they often leave out components of the manual lesson plan because of time or the material being too complex to teach in the time allotted (see Table 4.2). Inconsistency in exposure has the potential to affect the effectiveness of the program, as students may not receive the full instructional sequence necessary for skill development. Over time, it can have a cumulative effect. For example, Hannah's time teaching and practicing Fundations® skills equaled half of the suggested time—average 2.6 hours over two weeks as opposed to the program's suggested 5 hours (i.e., 30-minutes daily). The lack of adherence to program structure continues to highlight the need for greater support in maintaining instructional consistency to ensure students receive the intended benefits of the Fundations® curriculum. It is noteworthy to mention that a lack of adherence was sometimes out of the teachers' control (see Finding 5: Significant Barriers to Implementation).

Table 4.2

Teacher Quotes on Modifying Lessons

Teacher	Do you modify lessons?	Representative Quote
Hannah	Yes	"By cutting lessons in half or skipping portions."
Jane	Yes	"Sometimes the activity with the stories is going to take more time than what we have, especially if they're already struggling to pay attention. Then I pull out the story or I just don't do it. I just don't do it."
Fiona	Yes	"Yes, I modify, it's usually taking steps out because I take out maybe the ending part where it's like, make it fun or the comprehension piece."

Summary of Finding 2

Adherence to the Fundations® program guidelines varied among all three teachers, leading to inconsistencies in lesson delivery. Analysis of the frequency chart revealed disruption of the program's continuity with variability of teacher instruction over the ten days – even when considering missed days due to snow and testing. While teachers perceived their consistency to be about four days per week, the recorded data showed lower adherence. In addition to missed days of instruction, the duration of lessons was inconsistent, resulting in the omission of key components. Interviews with all three teachers confirmed that they frequently modified lessons due to time constraints or the complexity of the material. Teachers admitted to skipping sections of the lesson plan, such as comprehension activities or interactive components, to manage time more effectively. These inconsistencies can impact the program's effectiveness, as students may not receive the full instructional sequence needed for skill development.

Finding 3: Challenges in Responsiveness

A significant challenge identified during the data analysis is low participant responsiveness, with more than half of the students showing a lack of engagement during lessons. Weak student engagement was evident in the absence of key instructional strategies, such as tapping out sounds when reading and spelling words. Teacher enthusiasm also played a critical role, as a lack of energy and engagement from instructors can contribute to student disengagement. These factors collectively can be a barrier to the FOI.

Theme 1: Student Engagement

The lessons in Fundations® are designed to keep kids active and engaged. The lessons are supposed to be delivered with enthusiasm and at a quick pace, so students remain engaged.

Student engagement is an important part of the Fundations® program to ensure that students are actively learning.

While not a direct focus of this study, it was evident through data analysis of the observation protocol and field notes that students were not actively engaged in the Fundations® lesson being taught. In Fiona and Jane's classes, less than 50% of students were actively engaged in the lesson. It appeared that the slow pace in instruction encouraged students to lose focus and start talking amongst themselves. In Hannah's class, the lesson started with 80% or more students engaged but dwindled to less than 50% engagements toward the end of the lesson amid classroom distractions. In Jane's interview, she recognized that keeping the kids' attention was a challenge.

> "Student engagement is challenging. I don't know that it's completely the Fundations® material and what they're learning. I think in general, it's hard to engage the kids and keep their attention, because well, if they see something as work in general, they don't want to do it so that's a challenge with anything is finding ways to make it interesting to them." (Feb. 10, 2025)

Fiona had the same sentiment, saying, "Some of them love it and they actively engage in the warmup. But then there's other students like you saw yesterday in the observation that are just talking in the corner, and don't want to do anything and get very distracted" (Feb. 15, 2025). In Hannah's interview, she stated that most of her students like Fundations® and are engaged, but continued, consistent engagement is illusive as she said, "But then as the lesson goes on there are so many classroom distractions, I lose some of the engagement. It's an ongoing challenge" (Feb. 17, 2025).

Theme 2: Teacher Engagement

During classroom observations, in all three classrooms, teachers demonstrated minimal enthusiasm during lesson delivery, which could have significantly impacted student engagement. The instruction was slow-paced and lacked energy, potentially making it difficult for students to stay attentive and involved. Reflective memos showed that teachers, on average, delivered lessons in a monotone voice, with little to no inflection or variation in tone. Reflective memos after the observation often noted the question: Is the limited teacher enthusiasm contributing to a lack of excitement in the learning environment, and ultimately, student engagement? Additionally, there was minimal movement or physical engagement from the teachers, further diminishing the interactive and dynamic nature of the lessons. Comments recorded during the observations often included statements like "students appeared bored and disengaged," and reflective memos continued to ask questions and make interpretive statements regarding engagement (e.g., students appeared to have little motivation to participate actively). The absence of enthusiasm in instruction not only affected student responsiveness but likely hindered the overall effectiveness of the Fundations® program.

Summary of Finding 3

Student engagement in the Fundations® program was consistently low, with more than half of the students disengaged during lessons. Slow pacing led to off-task behavior, and student attention declined as lessons progressed. Challenges with quality of delivery likely impacted pacing such as eliminating key hands-on routines and limited material use due to management challenges. Moreover, limited material management led to disruptions in lesson flow, which could also impact participant responsiveness. Additionally, teachers demonstrated minimal

enthusiasm, delivering lessons in a monotone voice with little movement or energy, contributing to student disengagement.

Finding 4: Facilitators to Support Implementation

Despite the challenges in program implementation, several factors facilitated effective instruction, including the use of technology, immediate and corrective feedback, and teachers' confidence in their knowledge of the Fundations® program. This finding addresses Research Question 2: What were second-grade teachers' perceptions of the facilitators influencing the implementation fidelity of the Fundations?

Theme 1: Teachers' Confidence

Teachers effectively incorporated technology to enhance lesson delivery, using digital tools to present content in engaging and interactive ways. This integration was helpful in maintaining student interest and providing additional support for instruction. Another key facilitator was the teachers' ability to provide immediate and corrective feedback, which allowed students to recognize and correct errors in real time, reinforcing learning and improving skill development. Additionally, teachers felt confident in their understanding of the program, enabling them to answer student questions with clarity and provide guidance that fosters comprehension. Their assurance in content delivery helps create a supportive and structured learning environment, promoting student success. These strengths play a crucial role in balancing some of the challenges observed, contributing to more effective program implementation.

Use of Technology. Teachers effectively integrate technology to enhance lesson delivery, using digital tools to support instruction and can help with student engagement. Interview data divulged that the use of Google Slides is key for implementation. Fiona noted, "Those slides are a really big game changer, because having the visual cues and also not having to make them

myself is a huge weight off my plate. It's huge not to have to gather all the materials and just be able to push a button" (Feb. 17. 2025). Hannah stated, "Looking at the online Fundations® resource, Fun Hub, and using a Google Slideshow helps me feel prepared" (Feb. 14, 2025).

Corrective Feedback. Additionally, they excelled at providing immediate and corrective feedback, ensuring that students receive timely guidance to reinforce learning. Their confidence in giving corrective feedback further strengthened instruction, creating a supportive learning environment. It was noted in the observation protocol that Hannah walked around the classroom giving students corrective feedback on syllable division. She said, "This is a great try, but you need to scoop these two syllables right in the middle of the double consonant" to more than one student. The corrective feedback observed demonstrated a level of teacher knowledge with the content of the lessons, suggesting challenges with lesson adherence and quality of delivery may be more indicative of program complexity than teacher content knowledge. However, the influence of teacher knowledge was beyond the scope of this capstone study.

Answering Questions. Interview data also revealed that teachers often walk over to students to answer questions students had with the content. The teachers all stated in the interviews that they felt confident in addressing student questions and concerns and were witnessed in observations doing so explicitly and with accuracy. All teachers were observed addressing student questions individually. In data analysis, the observation protocol revealed that Fiona addressed a student's questions quickly and accurately while they were sitting on the rug working on spelling words in featured patterns. In addition, it was noted during Hannah's observation that she walked around the room and addressed individual kids questions on syllable division. During Hannah's interview, she was asked "What do you do if you see a student

struggling with the content?" She responded, "I usually walk over and provide one-on-one support."

Summary of Finding 4

Data analysis showed several factors contributing to effective instruction, including the successful integration of technology. Teachers utilized digital tools to enhance lesson delivery and reinforce learning. Their ability to provide immediate and corrective feedback was witnessed and is helpful to students so they can recognize and correct errors in real time, improving skill development. Additionally, teachers feel confident in their knowledge of the Fundations® program, which allowed them to answer student questions clearly and provided strong instructional support. These strengths helped mitigate challenges and contributed to more effective program implementation in those moments.

Finding 5: Significant Barriers to Program Implementation

Several significant barriers were identified during the observations and discussed with participants in the interviews that hindered the FOI of the Fundations® program, affecting both instructional continuity and student engagement. This finding addresses Research Question 3: What were second-grade teachers' perceptions of the barriers influencing the implementation fidelity of the Fundations program?

Theme 1: Classroom Distractions

One major perceived challenge is the prevalence of classroom distractions, which disrupt lesson flow and make it difficult for teachers to maintain focus. Frequent student classroom issues such as students leaving the classroom, unexpected phone calls, and interruptions from people knocking on the door all contributed to a fragmented learning environment. The distractions influenced the teachers focus and pace of instruction. Reflective memos revealed

that during the observations in all three classrooms there were at least two phone interruptions. Observation protocol data analysis showed that every time there was a distraction the teacher had to stop teaching, address the distraction, and then find her place where she left off to continue teaching. In the interviews, teachers shared that classroom disruptions, which were primarily out of their control, affected student learning, engagement, and teacher concentration. This was evident in the classroom observations as well (See Table 4.3). For example, in Hannah's classroom during the observation, one of her students left the room without permission. She had to stop instruction to call the office to alert them of the wandering student. A few minute after she got the students back into focus there was a knock at the door. The teacher stopped instruction again and answered the locked door to speak to the person at the door. She then resumed instruction after having to refocus kids' attention.

Theme 2: Limited Instructional Days

During the two-week period of data collection two instructional days were lost due to inclement weather. These canceled school days and hours affected consistency and FOI. Additionally, all of second grade had to participate in gifted testing which caused another day of Fundations® instruction to be missed. Teacher absences were another factor causing missed days of instruction. Hannah reported in her interview that she does not include Fundations® in her substitute lesson plans because it is too complicated, which caused two additional days instruction to be missed. Missed days and teacher absences added up to significant barriers to FOI.

Table 4.3

Quotes and Observation Data on Perceived Barriers

Participant	Observation Notes	Representative Quote
Hannah	• Phone range once • A student left the classroom without permission and teacher had to stop instruction to call and alert the front office • Someone knocked on the door	"Time management coming from the school as a whole. People need me during instruction not just students but adults like we saw during the observation. Like a lot of interruptions during the lesson which affects pacing and getting through the lessons consistently.
Jane	• Phone rang twice • Special education teacher came to the classroom to get a student	"I constantly have to stop instruction to redirect students or answer the phone or handle outside distractions."
Fiona	• Phone range twice • Teacher had to stop instruction to answer the phone and then help a student ready to leave the room	"I find that some of my students aren't engaged, and they won't repeat after me. So, I have to stop instruction to redirect and wait for them to repeat after me. I find myself repeating the same thing which kind of messes up the pacing. There are a lot of distractions."

Finding 5 Summary

Teachers reported that frequent classroom disruptions, largely beyond their control, negatively impact student learning, engagement, and their own ability to focus. Classroom

observations confirmed these interruptions, which included student behavior issues, phone calls, and unexpected visitors. Additionally, instructional time was significantly reduced due to factors such as inclement weather, second-grade gifted testing, and teacher absences. Over the two-week data collection period, two instructional days were canceled due to snow, further disrupting consistency and the FOI. These unavoidable interruptions create significant barriers to delivering the Fundations® program as intended, limiting both instructional continuity and student progress.

Limitations

This study had a few limitations. First, the number of participants was relatively small, only including three participants. Including more participants could have provided a broader and more diverse perspective. Second, the study only covered a two-week instructional period. In future studies, extending this to three or four weeks would likely yield a more complete picture of instructional trends. Third, only one classroom observation was conducted in each classroom, which may not be enough to fully capture typical instruction. Adding more observations would help develop a clearer understanding of everyday teaching practices.

Chapter Summary

This chapter synthesized data from multiple sources to identify key themes and findings addressing the research questions. The analysis revealed that teachers at RTS faced challenges in quality of lesson delivery due to limited familiarity with lesson scripts, resulting in slow pacing, frequent pauses, and student disengagement. Essential instructional strategies, such as phoneme isolation through tapping, were absent, and manipulatives were underutilized, reducing the program's effectiveness. Inconsistent adherence to program guidelines further impacted implementation, with teachers missing instructional days—averaging six out of ten—and

frequently modifying lessons by shortening them or omitting key components due to time constraints. Participant responsiveness was another major concern, with more than half of the students disengaged during lessons. Limited material organization and minimal teacher enthusiasm contributed to classroom disruptions and reduced participation. Despite these challenges, teachers effectively integrated technology to support instruction and provided immediate feedback to reinforce learning, noting their confidence in associated technology (e.g., slides) and their general knowledge of the content to respond to students facilitated their lesson implementation. However, external factors such as classroom distractions, phone calls, student behavior issues, and instructional time lost to inclement weather and testing frequently disrupted lesson flow, further impacting fidelity of implementation. Teachers most often mentioned these disruptions as barriers; however, program complexity was also commonly identified as a barrier to implementation.

Chapter 5: Recommendations

Research clearly states that children who develop foundational reading skills—such as phonemic awareness, the alphabetic principle, and decoding—are significantly more likely to achieve reading success in later years (Brady & Moats, 1997; Castles et al., 2018; Connor, 2016; Foorman et al., 2016; Hudson et al., 2021; Moats, 2020; Piasta & Hudson, 2022; Piasta et al., 2009). Yet, Rocky Top Elementary School (RTS), like many schools in the nation, is struggling to produce highly literate students with strong foundational reading skills. For the past three years, reading assessments such as the Phonological Awareness Literacy Screening (PALS) have shown limited growth in word-level reading skills, with a significant number of students in second grade failing to meet statewide benchmarks. In response to this struggle the implementation of the structured literacy program Fundations® was put in place to improve foundational reading skills and enhance student outcomes. However, the students in second grade continued to show stagnant results even after the program was implemented.

To better understand why second-grade students at RTS were not improving in their foundational reading skills, I conducted a qualitative case study on the fidelity of implementation (FOI) of the Fundations® program in second grade. Using a case study design helped me conduct an in-depth investigation using various data sources (Creswell & Poth, 2018). I aimed to determine the extent to which teachers were implementing the program with fidelity, their perceptions of the barriers affecting FOI, and their views on the facilitators supporting FOI.

This case study was guided by my conceptual framework, adapted from Carroll et al. (2007) and Century et al. (2010), which provides a comprehensive lens for assessing the fidelity of Fundations® implementation. By analyzing adherence, exposure, participant responsiveness,

and quality of delivery—while accounting for potential moderators—this framework offers valuable insights into the factors influencing implementation outcomes and helps guide efforts to enhance program effectiveness.

The purpose of this chapter is to provide recommendations to RTS Elementary, guiding the administration on potential professional development opportunities and supporting second-grade teachers in overcoming barriers to effective program implementation. My five key recommendations include:

- Recommendation 1: In-Class Modeling for Effective Student Engagement
- Recommendation 2: Increased Access to Fundations® Materials for Summer Preparation
- Recommendation 3: Ensure Instructional Support During Fundations® Lessons
- Recommendation 4: Establish Protected Instructional Time
- Recommendation 5: Ensure a Common Planning Time with Coach

Recommendation 1: In-Class Modeling for Effective Student Engagement

One of the key findings from chapter 4 revealed that there were challenges in the quality of delivery specifically navigating structured, scripted lessons and incorporating lesson materials into the lesson. Data analysis revealed that the teachers requested more in-class modeling so they can see how to navigate the lesson with their own student population. To support and improve quality of delivery, it is recommended that teachers receive more frequent in-class modeling with their own student population.

Observing experienced instructors and/or literacy coaches demonstrate effective teaching strategies in real-time can provide valuable insights into managing pacing, maintaining student focus, and implementing key instructional techniques. Research shows that supporting and mentoring teachers with a knowledgeable coach has the potential to increase the quality of

teachers' phonics-based instruction (Brownell et al., 2017). In addition, Hudson et al, (2021) states that hands-on experience under the supervision of an expert and knowledgeable teacher can increase teachers' awareness of their own teaching practices and reinforce positive desired teacher behaviors.

Modeled lessons should specifically address pacing, engagement strategies, behavior management, and the effective use of manipulatives. Additionally, modeling sessions should include guidance on organizing and managing instructional materials, as disorganized materials often contribute to lesson disruptions and lost instructional time. Literacy coaches or administrators should provide hands-on support to help teachers develop efficient systems for distributing, storing, and using materials seamlessly during lessons. Follow-up coaching and reflective discussions will further reinforce these strategies, ensuring teachers feel confident in applying them consistently. These approaches have been shown to yield the greatest improvements in teachers' knowledge and enhance their ability to implement effective practices (Cuticelli et al., 2016; Hudson et al., 2021; Meeks et al., 2016). By increasing support in both instructional techniques and material organization, RTS Elementary can improve the overall fidelity and effectiveness of Fundations® implementation.

Recommendation 2: Increased Access to Fundations® Materials for Summer Preparation

If improved literacy outcomes are the goal, then, explicit instruction should be taught by knowledgeable teachers (Piasta et al, 2009). According to Spear-Swerling and Ziblusky (2014), teachers with greater knowledge are more likely to implement evidence-based literacy instruction. In addition, Piasta et al. (2009) emphasize that this knowledge must be consistently applied in practice to positively impact student literacy outcomes. To support quality of delivery, and adherence, it is recommended that teachers should be allowed to take home Fundations®

manuals and provide online access to the Fundations® FunHub over the summer break to increase their knowledge of evidence-based literacy instruction and the scripted Fundations® program. Moats (2020) emphasizes that access to validated instructional materials should be available to all teachers and that teachers who know they are prepared and knowledgeable experience a higher degree of job satisfaction. While summer is not a contract time for teachers, sometimes teachers choose to use that time to prepare – and some teachers in this study mentioned wanted access to materials over the summer.

During the school year, professional challenges exist such as time pressures and workplace stress, which can significantly impact the adult learning process (Webster-Wright, 2009). Therefore, time during the summer break where there is less pressure, and stress can be effective for learning. In addition, flexible pathways for professional learning are encouraged for effective adult learning (Webster-Wright, 2009) Further, Webster-Wright (2009) emphasizes that external direction is often essential for effective adult learning, supporting the value of structured opportunities outside the demands of the regular school year. Webster-Wright (2009) also offers that "professionals can be supported to continue to learn in their own authentic way while taking into account the expectations of their working context" (p. 727).

Data analysis of the semi-structured interviews revealed that the teachers recognized that they need to know the program better so their lessons can be smoother and have easy transitions between components. Participant Fiona specifically stated in her interview that if she could take the manual home over the summer, she could study the program which would increase her knowledge of the program. Extended access would give teachers the opportunity to thoroughly review lesson scripts, familiarize themselves with program expectations, and explore recommended activities at their own pace. By engaging with the materials in advance, teachers

can enter the school year with greater confidence, increasing self-efficacy in lesson delivery, pacing, and instructional strategies, ultimately improving program fidelity.

Recommendation 3: Ensuring Instructional Support During Fundations® Lessons

Recommendation 3 emphasizes the importance of ensuring that teachers have the classroom support—through the use of instructional aides— necessary to deliver effective Fundations® instruction. RTS currently employs instructional aides for each grade level, but they are often taken out of classes to be used in other areas. The purpose of this recommendation is to improve perceived barriers to implementation by ensuring that the designated second-grade instructional aides are in place during the classes' Fundations® instructional 30-minute time frame.

Matthews et al. (2021) found that teachers who had consistent paraprofessional support with students as needed delivered stronger reading instruction. In contrast, teachers without such support demonstrated weaker instructional practices. They also found that paraprofessionals and teachers together protected instructional time. In addition, having additional classroom support—such as instructional aides or paraprofessionals—can help manage student behavior, minimize disruptions, and allow teachers to focus on delivering lessons effectively. It also enables more responsive support for individual student needs (Matthews et al., 2021). Instructional aides can assist with tasks like redirection, distributing materials, and providing one-on-one support, maximizing valuable instructional time. Research by Vadasy et al. (2006) further supports the role of paraeducators in effectively supplementing classroom reading instruction. Their study on trained paraeducators showed that paraeducators helped to increase overall reading accuracy and fluency (Vadasay et al., 2006). Therefore, it is recommended that RTS school administration

ensure teachers receive consistent support from instructional aides during Fundations® lessons to promote fidelity of implementation and improve student engagement and outcomes.

Recommendation 4: Establishing Protected Instructional Time

According to Leonard (2008) and more recently Kraft & Monti-Nussbaum (2021), concerns about the erosion of instructional time in public school is not a new phenomenon; it has been receiving attention for over eighty years. In a study conducted at a Tennessee elementary school, France (2005) found that a majority of teachers were disturbed by outside classroom intrusions, resulting in disrupted instruction; teachers felt these interruptions caused students to become off-task and that greater effort from the administration was needed to decrease the frequency of interruptions. Kraft & Monti-Nussbaum (2021) found that "small classroom interruptions can have a deleterious "snowballing" effect, disrupting instruction and distracting students for much of the remainder of the period" (p. 14). Teachers at RTS have similar feelings. Data analysis of the semi-structured interviews revealed that all three teachers were seeking improvement in external classroom disruptions.

According to Leonard (2008) it is important to limit external classroom interruptions. The responsibility to limit classroom interruptions falls to the school administration who need to develop clear policies protecting instructional time. Therefore, to improve perceived barriers to implementation, RTS Elementary administration should implement clear expectations to minimize classroom disruptions during Fundations® lessons. Frequent interruptions, such as phone calls and visitors knocking on the door, significantly impact instructional flow and student engagement. To support teachers in maintaining FOI, administrators should establish a policy designating this time as uninterrupted ensuring that non-emergency calls and visits are redirected or scheduled outside of the instructional block. By advocating for these protections,

administration can reinforce the importance of structured literacy instruction and create an environment where teachers can focus on delivering high-quality, effective lessons.

Recommendation 5: Establish Common Planning Time with Coaches

To improve the fidelity of Fundations® implementation and to support quality of delivery, adherence, participant responsiveness, and exposure it is recommended that the RTS second grade teachers have a protected common planning time each week to discuss Fundations® instruction with a literacy coach. This forum can be useful to plan instruction, troubleshoot issues, and learn key instructional strategies as a group. Analysis of interview and observation data showed that the teachers recognize their knowledge, their navigation of the structured lessons, and their organization of materials and manipulatives used in Fundations® instruction needs honing. According to Moats (2020) the time needed to develop "the repertoire of practical implementation skills" (p. 21) necessary for structured literacy instruction is substantial. She suggests that programs should be planned to allow teachers to collaborate with peers and with mentor coaches to help them navigate the instructional challenges they will encounter in their classrooms (Moats, 2020). She also suggests that teachers need ongoing professional development that has "topical continuity, practical application, and opportunities to collaborate with peers" (Moats, 2020, p. 25).

Brady et al.'s (2009) study with first grade teachers showed the benefits of summer institutes followed by monthly meetings and ongoing in-class support from a coach. Teachers in their study demonstrated increased content knowledge (phonemic awareness was the focus of this study) and attitudes. Brownell et al. (2017) observed that teachers who had additional support like monthly meetings and classroom observations improved their quality of instruction in foundational reading skills. Studies such as those done by Brady et al. (2009) and Brownell et

al. (2017) show that providing teachers with expert coaching to help teachers implement foundational reading instruction into classroom instruction is beneficial.

These weekly meetings can help to ensure that instruction is well planned to include the use of manipulatives and improved material organization, which will help with pacing issues and student engagement. Supporting the pace and hands-on, interactive nature of the lessons may also help reduce classroom behaviors. This coupled with ongoing classroom modeling has the potential to affect change in the FOI of the Fundations® program at RTS Elementary.

Chapter 5 Summary

This chapter provided recommendations to improve the FOI of the Fundations® program at RTS. Despite its adoption, reading assessment data from PALS showed stagnant growth in foundational reading skills among second-grade students. A qualitative case study identified the extent of FOI based on four components of implementation as well as key facilitators and barriers. To address the findings of this study, five recommendations were proposed: 1) increasing in-class modeling to improve engagement, pacing, and material management; 2) providing summer access to Fundations® manuals and online resources; 3) ensuring instructional support through classroom aides; 4) establishing protected instructional time to minimize disruptions; and 5) ensuring protected Fundations® instructional weekly meetings with a literacy coach. Implementing these strategies will enhance instructional consistency, boost student engagement, and improve overall program effectiveness, ultimately leading to stronger foundational reading skills for students at RTS.

Concluding Remarks

This study examined the fidelity of implementation (FOI) of the Fundations® program at RTS Elementary, identifying key barriers and facilitators that impact its effectiveness. While the program was introduced to strengthen foundational reading skills, stagnant student progress indicated a need to evaluate how well it was being implemented in second-grade classrooms. Through qualitative analysis, findings revealed challenges such as inconsistent lesson delivery, student disengagement, classroom disruptions, and a need for stronger instructional support.

Despite these challenges, teachers demonstrated strengths in leveraging technology, providing immediate feedback, and expressing a willingness to improve their instructional practices. Addressing the identified barriers through targeted professional development, in-class modeling, enhanced instructional support, and structured collaboration time will be essential in ensuring the program's success.

Ultimately, for Fundations® to fulfill its intended purpose of improving foundational literacy, RTS Elementary must commit to strengthening FOI by providing teachers with the necessary resources, training, and administrative support. By prioritizing these efforts, the school can foster a more effective learning environment, ensuring that all students receive the high-quality literacy instruction they need to succeed.

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Appendix A

Frequency Chart

Frequency Chart: Please fill out the time you begin and end each day you teach Fundations for two work weeks.

How to Use:

1. **Date**: Log the date for each lesson.
2. **Begin Time**: Note the exact time the lesson started.
3. **End Time**: Record the exact time the lesson ended.
4. **Modifications to Lesson**: Describe any adjustments (e.g., extended practice time, altered activities, skipped sections).
5. **Comments**: Provide context, such as student responses, challenges faced, or successes.
6. **Reflections**: Any notes you feel you want to add. (e.g., student engagement, or any challenges).

Date	**Begin Time**	**End Time**	**Modifications to Lesson** e.g., adjusted pacing, skipped activity, added supplemental materials	**Comments** Notes on why modifications were made	**Reflections (Optional)**
Date: Day 1					
Date: Day 2					
Date:					

Day 3					
Date: Day 4					
Date: Day 5					
Date: Day 6					
Date: Day 7					
Date: Day 8					
Date: Day 9					
Date: Day 10					

Appendix B

Observation Protocol

This Observation Protocol provides a structured approach to assess the fidelity of implementation for the Fundations® program and will be used alongside document and interview protocols to provide a comprehensive view of program effectiveness and potential areas for support.

- **Observation Date:**
- **Observation Time:**
- **Lesson Topic/Focus:**

Participant Responsiveness

Criteria	Few: Less than 50%	Some: 50%-79%	Most: 80% or more	**Comments/Suggestions/Questions**
Students manage materials, follow routines, and reference classroom materials efficiently and as needed				
Students tap out sounds as directed, manipulate magnet tiles as directed, and actively participate in the lesson				
Students apply strategies independently as needed (tapping, reference, posters)				
Students demonstrate master of previously taught skills/sounds for decoding & spelling. Noted through drill sounds, dictations, make it fun etc.)				
Students are engaged and active				

Adherence to Program Guidelines

1 – Low adherence: Little to no evidence of the criterion being met.
2 – Moderate adherence: Partial evidence of the criterion being met, with some inconsistencies or gaps.
3 – High adherence: Clear and consistent evidence of the criterion being met.

Criteria	**Rating**	**Notes/Modifications**
Teacher followed prescribed manual lesson plan	1 ☐ 2 ☐ 3 ☐	**How?**
Teacher addressed all components of the prescribed lesson	1 ☐ 2 ☐ 3 ☐	**Components left out?**
Teacher is teaching patterns, rules, and sounds **accurately** as stated in manual	1 ☐ 2 ☐ 3 ☐	
Teacher is teaching patterns, rules, and sounds **explicitly** as stated in manual	1 ☐ 2 ☐ 3 ☐	
Teacher taught whole group lesson for prescribed amount of time during observation (Exposure)	Yes ☐ No ☐	**How long?**

Quality of Delivery

1 – Low adherence: Little to no evidence of the criterion being met.
2 – Moderate adherence: Partial evidence of the criterion being met, with some inconsistencies or gaps.
3 – High adherence: Clear and consistent evidence of the criterion being met.

Criteria	Rating	Observation Notes
Teacher is obviously prepared and familiar with the lesson.	1 ☐ 2 ☐ 3 ☐	
Classroom and student materials are organized and support instruction.	1 ☐ 2 ☐ 3 ☐	
Pacing and transitions are consistent and smooth to allow for the lesson to be completed in the given time.	1 ☐ 2 ☐ 3 ☐	
Teacher is modeling patterns, rules and sounds accurately	1 ☐ 2 ☐ 3 ☐	
Teacher able to address students questions about patterns and rules accurately	1 ☐ 2 ☐ 3 ☐	
Teacher gives immediate and accurate feedback to students	1 ☐ 2 ☐ 3 ☐	
Teacher delivers instruction with enthusiasm	1 ☐ 2 ☐ 3 ☐	

Moderators

1. Little knowledge demonstrated
2. Moderate knowledge demonstrated
3. High knowledge demonstrated

Criteria	**Rating**	**Observation Notes**
Teacher demonstrates a strong understanding of concepts by adjusting instruction for students understanding if necessary?	1 ☐ 2 ☐ 3 ☐	
Teacher demonstrates a strong understanding of concepts by reviewing prerequisite skills if students aren't grasping material.	1 ☐ 2 ☐ 3 ☐	
What potential barriers are happening in the classroom that are not listed?		

Appendix C

Interview Questions

These teacher interview questions are based on this capstone's conceptual framework, focusing on fidelity of implementation in the Fundations® program. Each question is designed to address components from Century et al. (2010) and Carroll et al. (2007), specifically the themes of adherence, participant responsiveness, quality of delivery, and key moderators.

- ***Observation Date:***
- ***Lesson Topic/Focus:***

Adherence (Content and Exposure)

1. How consistent are you in your use of Fundations® in your classroom?
2. What are some challenges you encounter with implementing Fundations® lesson in the daily schedule?
3. Do you modify the lessons? What do you typically modify about the lessons?
4. What do you feel you need to change? Why?

Participant Responsiveness

5. How would you describe your students' engagement and interest during Fundations® lessons?

Quality of Delivery

6. What do you do if you see a student struggling with the content?

7. Do you feel you are able to address students' questions and concerns?
8. How do you feel about your pacing of the instruction?

Moderators

Program Complexity

9. In your experience, what aspects of the Fundations® program are most complex or difficult for students to grasp?

10. Are there parts of the program that you find complex to teach, and if so, how do you adapt or simplify these elements?

Teacher Knowledge of the Curriculum

11. How prepared did you feel to teach the Fundations® program?

12. What helps you feel prepared?

13. What kind of professional development or resources would support you in delivering the program more effectively?

Appendix D

Preliminary A Priori Codes

1. Adherence to Program
    - Lesson Delivery: Evidence of consistent implementation of Fundations® lesson plans (e.g., pacing, content, fidelity to instructional sequence).
    - Consistency in Frequency of delivery
    - Materials Use: Proper and consistent use of program-provided materials.
    - Teacher Preparation: Evidence of planning and familiarity with Fundations® content.
2. Student Engagement
    - Active Participation: Observable student involvement in activities (e.g., answering questions, participating in group work).
    - Engagement Challenges: Instances where students appear disengaged or distracted.
3. Facilitators
    - Professional Knowledge: Impact of teacher training or support on implementation quality.
    - Teacher Experience: Influence of teaching experience or familiarity with Fundations® on adherence.
    - Classroom Environment: Environmental factors supporting effective instruction (e.g., classroom management, resources).
4. Hindrances
    - Lack of Training: Instances where insufficient training affects implementation.
    - Resource Constraints: Barriers such as inadequate materials, time, or space.

- Student Factors: Challenges related to student behavior, or diverse learning needs

5. Fidelity to Instruction
    - Alignment to Framework: Adherence to the framework of Fundations® (e.g., phonics focus, systematic approach).
    - Deviations from Protocol: Observations of significant modifications or omissions in instruction.
6. Facilitation Strategies
    - Leadership Support: Administrative or institutional support for implementing Fundations®.
    - Teacher Collaboration: Evidence of teamwork or shared strategies among teachers.
    - External Influences: External factors (e.g., community, home environment) influencing implementation.
7. Teacher Needs
    - Professional Development Gaps: Areas where additional training or coaching could improve adherence and effectiveness.
    - Support Systems: Recommendations for ongoing teacher support, such as mentoring or peer collaboration.

Appendix E

Excerpts from Final Comprehensive Codebook

Code Category	Code	Code Definition			Themes
Consistency in use	High Consistency	Uses Fundations® daily with fidelity.	Adherence		
Consistency in use	Moderate Consistency	Uses Fundations® regularly but with occasional deviations.			
Consistency in use	Low Consistnecy	Uses Fundations® sporadically or inconsistently.			
Challenges in Implementation	Time Constraints	Difficulty fitting lessons into the daily schedule.			
Challenges in Implementation	Student Engagement	Managing attention and participation			111
Challenges in Implementation	Resource Availabitlity	Lack of necessary materials or support.			
Challenges in Implementation	Curriculum Demands	Balaning Fundations with other instructional priorities			
Lesson Modifications	Content Simplification	Reducing complexity for struggling students			
Lesson Modifications		Shortening or lengthening lesson components.			111
Lesson Modifications	Pacing Changes	Adjusting speed of instruction based on student needs.			
Lesson Modifications	Supplemental Activities	Adding or removing exercises			
Student Engagement & Interest	High Engagement	Students actively participate and show enthusiasm.	Participant Responsiveness		
Student Engagement & Interest	Moderate Engagment	Some students engaged, others passive			
Student Engagement & Interest	Low Engagment	Frequent distractions, lack of interest in lessons.			
Addressing student questions & concerns	Confident and Effective	Able to clarify c oncepts easily	Quality of delivery		
Addressing student questions & concerns	Some Difficulty	Struggles with certain studetn inquiries			
Addressing student questions & concerns	Needs Improvement	Lacks confidence in addressing questions			
Support for Struggling Students	Individual Attention	One on one support, reteaching			111
Support for Struggling Students	Use of additional resources	Visuals, manipulatives, Technology			111
Teacher Preparedness	Highly Prepared	confident			
Teacher Preparedness	Moderatley prepared	some gaps in presentation			
Teacher Preparedness	Unprepared	unready to deliver instruction effectively			
Instructional Pacing	Well-paced	Lessons delivered at a balanced, engaging speed.			
Instructional Pacing	Too fast	Studetns struggle to keep up			
Instructional Pacing	Too slow	Lesson drags cuasing disengagment			
			Moderators		
Program Complexity for Teachers	Scope and Sequence	Navigating structured lesson progression			11111
Program Complexity for Teachers	Resource Management	Organized and utilized materials effectively			
Program Complexity for Teachers	Adaptation strategies	Breaking down content, incorporating scaffolds			